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## IN THIS ISSUE

Encephalitis in the Missouri River Basin, II

Milk Sanitation Ratings

Public Health Service Publications



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**CONTENTS**

|  | Page |
|--|------|
| Encephalitis in the Missouri River Basin. II. Studies on a focal outbreak of encephalitis in North Dakota. H. A. Wenner, Paul Kamitsuka, M. C. Krammer, T. A. Cockburn, and E. R. Price----- | 1075 |
| Communities awarded milk sanitation ratings of 90 percent or more, July 1949-June 1951-----  | 1086 |
| Public Health Service Publications, July-December 1950-----  | 1091 |

**INCIDENCE OF DISEASE**

|  |      |
|--|------|
| United States:   |      |
| Summary of reports from States-----  | 1099 |
| Table of reported cases of communicable diseases-----                        | 1102 |
| Foreign reports:   |      |
| Canada—Provinces—Weeks ended July 21, 1951, and July 7, 1951..               | 1104 |
| Finland—June 1951-----   | 1105 |
| New Zealand—4 weeks ended May 26, 1951, and 5 weeks ended June 30, 1951----- | 1105 |
| Cholera-----   | 1105 |
| Smallpox-----  | 1105 |
| Yellow fever-----  | 1106 |

# Public Health Reports

Vol. 66

•

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•

No. 34

## Encephalitis in the Missouri River Basin

### II. Studies on a Focal Outbreak of Encephalitis in North Dakota

By H. A. WENNER, M.D., PAUL KAMITSUKA, M. C. KRAMMER, T. A. COCKBURN, M.D.,  
and E. R. PRICE, D.V.M.\*

During August 1949, an outbreak of encephalitis occurred in Barnes County, North Dakota.<sup>1</sup> Poliomyelitis was present in the area also, being part of a widespread outbreak in the State during the summer and fall of 1949. Although frank and abortive attacks of poliomyelitis were experienced, a clinically different type of central nervous system illness appeared during the last weeks of July and the first 2 weeks of August. In contrast to poliomyelitis, adults were attacked and experienced illness which was characterized best as encephalitis. This report briefly describes the type of clinical illnesses and some studies made to identify the etiologic agent(s) responsible for illness in patients sick with encephalitis.

#### Materials and Methods

*Poliomyelitis and encephalitis in North Dakota.* In the course of the outbreak of poliomyelitis, 451 cases were reported in the State (population 1950, 616,185). During the same period, 126 cases of encephalitis were recorded. The geographical and seasonal distribution of these reported cases appear in figure 1. Inasmuch as it is known that an appraisal of cases which are mild encephalitis and abortive poliomyelitis is difficult, these data must be considered as subject to error.

*Poliomyelitis and encephalitis in Barnes County.* The geographical distribution of poliomyelitis and encephalitis in Barnes County (population 1950, 16,822) appears in figure 2. Seventeen cases of encephalitis and 14 cases of poliomyelitis were reported. All of these illnesses were reported during the period July 15-August 27. Since a number of patients reported as having poliomyelitis were not paralyzed, some

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<sup>1</sup>We are indebted to Dr. R. O. Saxvik, Executive Officer of the State Board of Health, Bismarck, N. Dak., for the privilege of studying the North Dakota outbreak. Thanks are due also to Kenneth Mosser and Earl Arnold for their assistance.

## NORTH DAKOTA

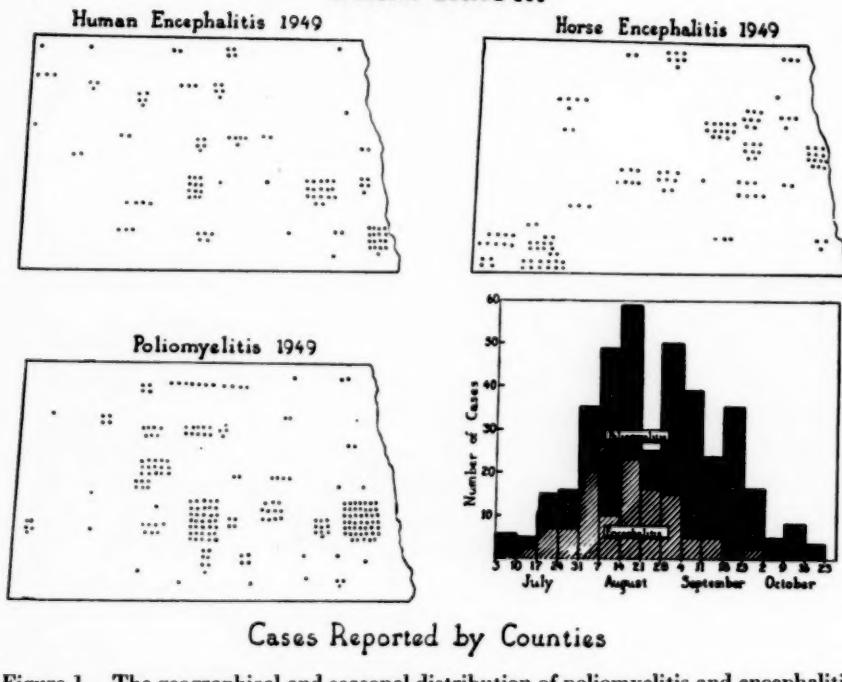


Figure 1. The geographical and seasonal distribution of poliomyelitis and encephalitis in North Dakota in 1949.

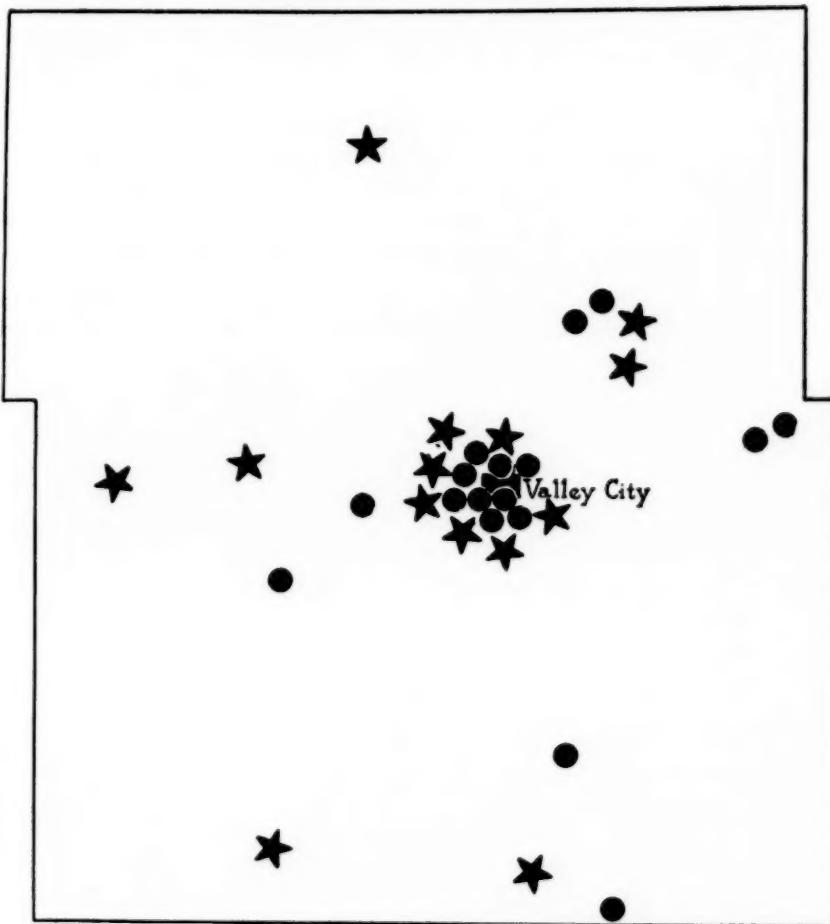
probably experienced mild attacks of encephalitis. That the latter possibility is a likely one will appear in adjunct data.

*Clinical considerations.* Between July 26 and August 15, 1949, 13 recognized human cases of encephalitis were observed in Barnes County. All of the patients were adults; there were 4 females and 9 males. There were three deaths. Necropsies were not performed.

Some data concerning 12 of these patients appear in table 1. One patient died prior to our arrival; information concerning the illness was not obtained. The clinical features of the illnesses were sudden onset with fever ( $101^{\circ}$  to  $103^{\circ}$  F.), sensations of chilliness, headache, nausea, vomiting, dizziness, and muscular pains, particularly involving the chest. Headache, frontal in distribution, was severe and aggravating. There was stiffness of the neck and back. The spinal fluids had increased cell counts (20 to 300 cells mm.<sup>3</sup>). These were chiefly lymphocytes.

*Specimens collected from human cases.* Whole blood, serum, cerebrospinal fluid, oropharyngeal exudate, and feces were obtained from five acutely ill patients. These materials were stored immediately on dry ice and transported to the laboratory. Serums from these five patients and others (see table 1) were obtained in August and October 1949, and in March 1950.

# BARNES COUNTY



Stars = Poliomyelitis

Dots = Encephalitis

Figure 2. The geographical distribution of poliomyelitis and encephalitis in Barnes County, North Dakota, in 1949.

*Specimens collected in the field.* A history of an epizootic in domestic animals was not obtained at the time of investigation. Later it was learned that horses in the area and elsewhere in the State (fig. 1) had experienced encephalitis during the summer. Serums were not obtained from horses. Mosquitoes collected August 14 to 15, 1949, in the area of Valley City were as follows:

|                                   |     |   |    |
|-----------------------------------|-----|---|----|
| <i>Aedes vexans</i> .....         | 186 | <i>Aedes dorsalis</i> .....             | 68 |
| <i>Aedes triseriatus</i> .....    | 2   | <i>Culex tarsalis</i> .....             | 81 |
| <i>Aedes nigromaculatus</i> ..... | 18  | <i>Culex</i> , species unidentified.... | 3  |

Table 1. Notes on clinical findings and specimens collected from patients with encephalitis

| Patient  | Age | Sex | Onset   | Symptoms   | CSF <sup>1</sup> | Specimens collected |                 |       |       |          |
|----------|-----|-----|---------|--|------------------|---------------------|-----------------|-------|-------|----------|
|          |     |     |         |  |                  | Blood               | OP <sup>2</sup> | Stool | Serum |          |
|          |     |     |         |  |                  |                     |                 |       | 1     | 2        |
| B. R.    | 24  | M   | 8/10/49 | Headache, stiff neck.....                        | ±                | 8/13                | 8/13            | 8/13  | 8/13  | 3/25/50  |
| E. C. P. | 33  | F   | 7/26/49 | Headache, stiff neck.....                        | +                | 8/13                | -----           | 8/13  | 8/13  | 10/24/49 |
| E. G.    | 59  | M   | 8/11/49 | Fever, headache, backache, stiff neck.           | ?                | 8/13                | 8/13            | 8/13  | 8/13  | 3/25/50  |
| G. K.    | 64  | M   | 7/30/49 | Headache, confusion lethargy, depression.        | +                | 8/13                | -----           | ----- | 8/13  | 3/25/50  |
| R. S.    | 20  | M   | 8/13/49 | Fever, headache, backache.....                   | +                | 8/14                | 8/14            | 8/14  | 8/14  | 3/25/50  |
| R. K.    | 38  | M   | 8/4/49  | Fever, chills, diplopia; died 8/10/49.           | +                | -----               | -----           | ----- | ----- | -----    |
| T. W.    | 26  | M   | 8/4/49  | Headache, nausea, vomited, stiff neck, backache. | +                | -----               | -----           | ----- | 8/14  | 3/25/50  |
| I. L.    | 27  | F   | 8/1/49  | Headache, nausea, stiff back and neck.           | +                | -----               | -----           | ----- | 8/14  | 10/24/49 |
| R. F.    | 25  | M   | 8/3/49  | Headache, stiff back and neck.....               | +                | -----               | -----           | ----- | ----- | 3/25/50  |
| A. K.    | 29  | M   | 8/1/49  | do.....  | +                | -----               | -----           | ----- | ----- | 3/25/50  |
| P. M.    | 22  | F   | 8/3/49  | Fever, headache, nausea, vomited, stiff neck.    | ±                | -----               | -----           | ----- | ----- | -----    |
| A. E.    | 32  | M   | 8/13/49 | Headache, chest pain; died.....                  | +                | 8/14                | 8/13            | 8/14  | 8/14  | -----    |

<sup>1</sup> CSF=13 to 350 cells; average 106 cells/mm.<sup>3</sup>; chiefly lymphocytes.<sup>2</sup> OP=oopharyngeal exudate.

In addition, mites were obtained as follows:

| Source of mites    | Species   |
|--------------------|---|
| Chicken house..... | <i>Dermanyssus gallinae</i>                                 |
| Sparrow nest.....  | <i>Dermanyssus gallinae</i>                                 |
| Sparrow nest.....  | { <i>Dermanyssus gallinae</i><br><i>Bdella</i> species      |
| Nest material..... | <i>Pteronyssus</i> species                                  |
| Nest material..... | { <i>Liponyssus sylviarum</i><br><i>Pteronyssus</i> species |

**Tests for viruses.** Cerebrospinal fluids and whole blood samples were inoculated intracerebrally into (a) suckling mice, (b) 3-week-old CFW Swiss mice, (c) young adult guinea pigs, and (d) rhesus monkeys (*Macaca mulatta*). Oropharyngeal exudates were prepared for inoculation according to a method described previously (1). Fecal samples were emulsified in distilled water (4 parts) and centrifuged in an angle centrifuge (5000 rpm for 30 minutes at 4° C.). Materials obtained from the throat and intestine were inoculated into (a) suckling mice, (b) young Swiss mice, (c) guinea pigs, (d) hamsters, and (e) rhesus monkeys. Usually the intracerebral portal was used, although intranasal (2), intraperitoneal (3), and subcutaneous portals were used also.

**Tests for antibodies.** Neutralization (4) and complement fixation (5, 6, 7) tests were made with the following antigens: WEE, EEE, St. Louis, and the California<sup>2</sup> strains of encephalitis viruses, and mumps and Newcastle disease viruses.

<sup>2</sup> The California strain of virus (8) was received from Dr. W. McD. Hammon, School of Public Health, University of Pittsburgh, Pittsburgh, Pa. We are indebted to him for permitting us to include this virus in the present study.

*Confirmation of positive results.* Histologic studies were made of the central nervous system of animals surviving inoculation more than 48 hours. If fever or apparent illness occurred in animals, some were sacrificed and brain-to-brain passages made. The identification of viruses was made on (a) successful passage in series in susceptible recipients, and (b) neutralization of the agent with previously prepared specific antiserum. Cross protection tests were made with one strain of WEE virus.

## Results

*Isolation of virus from human specimens.* An agent causing encephalitis in mice apparently originated in the blood obtained from patient A. E. and the stool from patient R. S. In each instance virus was adapted to mice from the brain of sick guinea pigs. A résumé of history of passage appears in table 2.

*Blood.* Whole blood obtained early in illness from patient A. E. was used. The frozen ( $-70^{\circ}$  C.) blood sample was thawed and triturated in a mortar. The blood mixture was clarified by centrifugation and the hemolysate inoculated intracerebrally into 3-day and 3-week-old mice, guinea pigs, and a rhesus monkey (table 3). Suckling mice became ill, but passage was unsuccessful. The rhesus monkey survived 3 weeks without definite clinical symptoms. Meningoencephalitis was observed on histologic examination. Guinea pigs inoculated with blood became sick; they were sacrificed on the 6th and 7th days. Pooled brain emulsion from these guinea pigs was inoculated into eight mice and three guinea pigs. Mice remained healthy for 3 weeks. Two of three guinea pigs became sick, and were sacrificed on the 4th and 12th days, respectively. From one of these guinea pigs an agent causing encephalitis in mice was established and identified by serum neutralization as WEE virus.

*Stool.* Stool extract obtained early in illness from R. S. was used. The stool was emulsified in distilled water to make a 10-percent suspension (wet weight). Following preliminary centrifugation to sediment crude materials, the emulsion was further centrifuged in the cold at 5000 rpm for 30 minutes (angle centrifuge). The brownish clear fluid was bacteria free. The supernatant fluid was inoculated into infant and 3-week-old mice, guinea pigs, and a rhesus monkey. These animals, with the exception of the guinea pigs, remained healthy during 3 weeks of observation. The guinea pigs showed signs of mild illness 4 to 14 days following inoculation. They were sacrificed, and pooled brain emulsion of these pigs was passaged intracerebrally into eight mice and three guinea pigs. Mice remained healthy for 3 weeks. Two of three guinea pigs became sick and were sacrificed on the 6th and 10th days, respectively. From one of the guinea pigs an agent causing encephalitis in mice was established and identified as WEE virus.

Four months later the same stool extract was inoculated intracerebrally and intraperitoneally into two guinea pigs. These animals became ill and were observed to have tremors and weakness of the legs. They were sacrificed on the 7th and 8th days. Emulsions prepared from the brain of each of these guinea pigs failed to cause illness in 18 young Swiss mice.

The detection of WEE virus in these human milieus have been viewed by us with some reserve. First, it was hard to establish the existence of the virus as evidenced by refractoriness of mice to virus

**Table 2. Detection of WEE virus in blood and stool of human beings ill with encephalitis**

| Human materials               | Tissue extracts into guinea pigs  | Guinea pig CNS pools, 1st passage   | Guinea pig CNS into young mice <sup>2</sup>                           | Neutralization indices <sup>1</sup> | Remarks  |
|-------------------------------|---|---|---|-------------------------------------|--|
| Blood <sup>3</sup><br>(A. E.) | No. 363 (survived).<br>No. 364 <sup>4</sup> Sick 4th-7th days, killed<br>No. 365 <sup>4</sup> 6th-7th days. | No. 366 Sick, killed 4th day.<br>No. 367 Sick, fever, killed 12th day.<br>[No. 368 (survived)]. | $\rightarrow 10/10 \rightarrow 5/9 \rightarrow 6/6 \rightarrow 30/30$ | $10^{-4.3}$                         | WEE<br>$>32,000$<br>EEE<br>$<32$<br>St. Louis<br>$<32$ |
| Stool <sup>4</sup><br>(R. S.) | No. 348 <sup>4</sup> Sick 4th-14th days, killed<br>No. 349 <sup>4</sup> 14th day.                           | [No. 369 (survived)<br>No. 370 Sick, killed 6th day.<br>[No. 371 Sick, killed 10th day.         | $>9/11 \rightarrow 16/16 \rightarrow \dots \rightarrow 37/37$         | $10^{-4.3}$                         | WEE<br>$>3,200$<br>EEE<br>$<32$<br>St. Louis<br>0      |

<sup>1</sup> Viruses were tested against antiseraums of known titer for WEE, EEE, and St. Louis viruses.

<sup>2</sup> CFW strains of mice were used.

<sup>3</sup> Clot and serum were emulsified in a mortar; supernatant fluid was used following centrifugation at 1,500 rpm.

<sup>4</sup> Supernatant fluid obtained by centrifugation in Swedish angle centrifuge at 5,000 rpm/30'; bacteria free.  
10/10 = 10 died in 2 to 5 days.

**Note:** Uninoculated guinea pigs were caged in a room adjacent to one where pigs were receiving WEE virus in preparation of immune serums. A possibility, that air-borne transfer of virus to uninoculated pigs took place, cannot be eliminated. To the best of our knowledge few, if any, deaths occurred in our small (12 animals) stock guinea pig colony. Unexplained deaths among guinea pigs do occur periodically.

if present in the source of materials. Second, the clinical reaction in guinea pigs inoculated with stool materials was rather indefinite, although a single passage was all that was necessary to establish the presence of a neurotropic agent infectious for mice. Third, patient R. S. did not develop antibodies either to homotypic or heterotypic (Cox strain) WEE virus. For these reasons the isolation of WEE virus from feces cannot be considered as conclusive evidence of its actual presence there. Although the probability that WEE virus was actually in the vascular shed of A. E., direct serologic evidence could not be established since the patient died a few days after onset of illness. Although we regard these isolations with a critical attitude, we have elected to report them because we do not know that the evidence warrants dismissing them as actual laboratory cross-infections. Further work is necessary to substantiate particularly the isolation of WEE virus from feces. Unfortunately, the human specimens of these patients have been depleted.

The results of additional tests for virus appear in table 3. With the

**Table 3. Tests made to detect filtrable virus in various body milieu of patients sick with encephalitis in Barnes County, North Dakota**

| Host                              | Patient   |          |          |          |          | Remarks   |
|-----------------------------------|-----------|----------|----------|----------|----------|---|
|                                   | B. C.     | E. C. P. | E. G.    | R. S.    | A. E.    |   |
| Stool                             |           |          |          |          |          |   |
| Suckling mice <sup>1</sup> .....  | 2/5/5     | 0/8      | 0/7      | 0/8      | 0/8      | R. S.=positive isolation of virus identified as WEE.  |
| CFW Swiss mice <sup>2</sup> ..... |           | 0/32     | 1/39     | 2/10     | 0/24     |   |
| Guinea pigs.....                  | 0/2       | 0/3      | 2/3/3    | 1/3; P=+ | 0/3      |   |
| Rhesus monkeys.....               | 0/1       | -----    | 0/1      | 0/1      | 0/1      |   |
| Oropharyngeal exudate             |           |          |          |          |          |   |
| CFW Swiss mice.....               | 5/23; P=0 | 0/1      | 0/2      | 0/1      | 2 10/10  | Monkeys on histology show mild meningo-encephalitis.  |
| Guinea pigs.....                  | 1/1; P=0  | -----    | 1/1      | 1/1; P=0 | 1/1; P=0 |   |
| Blood                             |           |          |          |          |          |   |
| Suckling mice.....                | 0/15      | -----    | 0/15     | 0/5      | 3/6; P=0 | A. E. positive isolation of virus identified as WEE. Monkey=meningo-encephalitis. CSF=287 cells/mm. <sup>3</sup> on 14th day. |
| CFW Swiss mice.....               | 0/15      | -----    | 0/18     | 0/18     | 0/10     |   |
| Guinea pigs.....                  | 2/2; P=0  | 2/2; P=0 | 1/3; P=0 | 2/3; P=+ | -----    |   |
| Rhesus monkeys.....               | -----     | -----    | -----    | 1/1; P=0 | -----    |   |
| Cerebrospinal fluid               |           |          |          |          |          |   |
| CFW Swiss mice.....               | -----     | -----    | 0/15     | 0/15     | 0/8      | Monkey=meningo-encephalitis. CSF=96 cells/mm. <sup>3</sup> on 15th day.   |
| Guinea pigs.....                  | -----     | -----    | 0/1      | 0/1      | -----    |   |
| Rhesus monkeys.....               | -----     | -----    | 0/1      | 1/1      | -----    |   |

<sup>1</sup> CFW strain.

<sup>2</sup> Deaths due to bacterial contamination.

<sup>3</sup> CFW strain 3 weeks of age.

0/8=nones died of eight inoculated during 21 to 30 days of observations; deaths after 24 hours are recorded only.

P=passage into 2 guinea pigs and/or 10 Swiss mice, or suckling mice.

exception of an imprint of mild encephalitis in rhesus monkeys following inoculation of oropharyngeal exudate and blood, all other efforts to detect virus in various body milieu were negative. All tests made in suckling mice were negative, thereby excluding the likelihood that Coxsackie virus (9) was the offending agent. Also the tests made in young mice and guinea pigs, including blind passages, bore negative results, thereby eliminating lymphocytic choriomeningitis. Poliomyelitis virus may be excluded on the basis of tests with stool and oropharyngeal specimens, for the monkeys inoculated with these specimens failed to develop the clinical disease or to demonstrate characteristic histologic lesions. These last results are in contrast to the ease with which poliomyelitis virus was detected in patients diagnosed as having poliomyelitis during the same outbreak, but from a neighboring county. The results of these tests appear in table 4.

Table 4. *Tests made to detect poliomyelitis virus in stools from patients ill with frank poliomyelitis in Bismarck, N. Dak.*

| Patient material | Host                    | Portals                              | Presence or absence of poliomyelitis virus |                            |                  |                    |
|------------------|-------------------------|--------------------------------------|--|----------------------------|------------------|--------------------|
|                  |                         |                                      | Original passage                           | Number additional passages | Tests in rodents | Histologic lesions |
| W Stool....      | <i>M. mulatta</i> ..... | Intraperitoneal and intra-nasal..... | +  | 4                          | Negative.....    | +                  |
| L Stool....      | do.....                 | do.....                              | +  | 4                          | do.....          | +                  |

It has been noted above that subclinical encephalitis was found in rhesus monkeys inoculated intracerebrally with oropharyngeal exudate, blood, and cerebrospinal fluid. The clinical course was mild. The temperature remained normal. Excitement and ataxia were inconstant findings. Cerebrospinal fluid obtained from two or three monkeys showed an increased cell count (96 and 287 cells; about half were lymphocytes). Histologically, there was mild meningo-encephalitis. Lesions were focal and present in midbrain and cortical areas. Neuronal damage and perivascular collars of round cells were present in scattered foci. The choroid plexuses and the anterior horn cells were undamaged. Passage of apparently infected monkey brain and cerebrospinal fluid into monkeys and mice provided negative clinical and histologic results.

*The serologic status of human cases.* The results of some serologic studies made with acute and convalescent serums obtained from nine patients appear in table 5. Two of the nine patients had a significantly elevated level of serum antibody neutralizing WEE virus, indicating that these individuals had experienced an attack of western equine encephalitis. One patient (E. G.) had a 400-fold increase in antibody titer. The other patient (G. K.) did not have a demonstrable rise in

Table 5. Results of neutralization and complement fixation tests with serums obtained from encephalitis patients

| Patient  | Neutralization tests |       |     |     |           |     |            |     | Complement fixation |       |     |   |
|----------|----------------------|-------|-----|-----|-----------|-----|------------|-----|---------------------|-------|-----|---|
|          | WEE                  |       | EEE |     | St. Louis |     | California |     | Mumps               |       | NDV |   |
|          | A                    | C     | A   | C   | A         | C   | A          | C   | A                   | C     | A   | C |
| E. G.    | 10                   | 4,000 | *   | <32 | *         | <32 | *          | <10 | 0                   | 0     | 0   | 0 |
| G. K.    | 10,000               | 3,000 | *   | <32 | *         | <32 | *          | <10 | 0                   | 0     | 0   | 0 |
| I. L.    | 10                   |       |     |     |           |     |            |     |                     |       |     |   |
| E. C. P. | 10                   |       |     |     |           |     |            |     |                     |       | 0   | 0 |
| R. F.    | 10                   | 10    | *   | <32 | *         | <32 | *          | <10 | 1:4                 | 1:8   | 0   | 0 |
| A. K.    | 10                   | 10    | *   | <32 | *         | <32 | *          | <10 | 0                   | 0     | 0   | 0 |
| B. R.    | 10                   |       |     |     |           |     |            | <10 | >1:16               | >1:16 | 0   | 0 |
| R. S.    | 10                   | 10    | 10  | 10  | 10        | 10  | *          | <10 | 1:4                 | 1:4   | 0   | 0 |
| T. W.    | 10                   | 10    | 10  | 10  | 10        | 10  | *          | <10 | 0                   | 0     | 0   | 0 |

\* Actually convalescent serum in 2d or 3d week of illness.

A = acute, or as early as possible after onset of illness.

C = convalescent.

neutralizing antibody titer because serum was not obtained until the 15th day following onset of illness.

In regard to the remaining patients listed in table 5, no serum antibodies were found able to neutralize WEE, EEE, St. Louis, or the California strains of encephalitis viruses or to fix complement in the presence of mumps, St. Louis, or Newcastle disease viruses. Serologic tests with Coxsackie virus have not been made because of the serologic independence of many of these strains. Since Coxsackie virus was not isolated in the outbreak, we have considered this to be likely evidence that this virus was not clinically active in this community.<sup>3</sup>

Because of a possibility of strain peculiarities, the serums of these patients were tested with both the Cox strain and the strain apparently isolated from patient A. E. Entirely similar results were obtained regardless of the strain of virus used in the neutralization tests.

*Detection of virus in anthropods.* A number of mosquitoes and mites were obtained in Barnes County during a 2-day period in August 1949. An agent, identified as WEE virus, was detected in two lots of mosquitoes (*Culex tarsalis*). The results of these tests appear in table 6. These strains were isolated following initial passage of mosquito extracts into mice. The mice became ill with encephalitis. The strains were passaged four times in mice and identified by serum neutralization tests as WEE virus. Each of these strains caused encephalitis in monkeys, hamsters, and guinea pigs.

The isolation of WEE virus directly from extracts prepared with two lots of *C. tarsalis* was easily accomplished in mice. In contrast, other mosquitoes, namely, *Aedes dorsalis*, *A. vexans*, and *A. nigromaculus*, on extraction failed to yield virus following intracerebral passage in mice. The small samples of mites also were tested in mice with negative results.

<sup>3</sup> Similar studies on serum from patients seen in Bismarck, N. Dak., have provided similar results.

Table 6. Tests made on mice to detect virus in mosquitoes and mites collected during the middle of August in Valley City, N. Dak.<sup>1</sup>

| Species                 | Date tested | Results of tests on mice, by intracerebral inoculation of 1/0.03 cc. |                   |                    |                   |     |           |
|-------------------------|-------------|--|-------------------|--------------------|-------------------|-----|-----------|
|                         |             | Mor-bi-dity initial passage  | Num-ber pas-sages | LD <sub>50</sub>   | Neutralization by |     |           |
|                         |             |  |                   |                    | Serum             |     |           |
|                         |             |  |                   |                    | WEE               | EEE | St. Louis |
| <i>C. tarsalis</i> (1)  | 12/2/49     | 11/29  | 4                 | 10 <sup>-7.0</sup> | 10,000            | 10  | 10        |
| <i>C. tarsalis</i> (2)  | 12/19/49    | 16/16  | 4                 | 10 <sup>-7.2</sup> | 10,000+           | 10  | 20        |
| <i>A. dorsalis</i> (1)  | 12/2/49     | 3/27   | 0                 |                    |                   |     |           |
| <i>A. vexans</i> (1)    | do          | 2/6/24   | 0                 |                    |                   |     |           |
| <i>A. vexans</i> (2)    | 12/14/49    | 0/18   | 0                 |                    |                   |     |           |
| <i>A. dorsalis</i> (2)  | do          | 1/18   | 1                 |                    |                   |     |           |
| <i>A. nigromaculata</i> | do          | 2/20   | 1                 |                    |                   |     |           |
| Mites                   | 4/29/50     | 3/20   | 0                 |                    |                   |     |           |

<sup>1</sup> Catches were made in and on the periphery of this small town; several catches were made near residences of human cases. Date of collection was Aug. 12-14, 1949.

<sup>2</sup> Contaminated by bacteria; no passage made.

## Discussion

At the onset it must be stated that the results presented in this paper contribute nothing that is new in regard to human infection and extra-human hosts in western equine encephalomyelitis. Howitt (10) previously has reported the detection of WEE virus in serum obtained from a patient in the acute phase of illness. Isolation of WEE virus from human blood has been a rare event, but it is not an unlikely one provided a sample is taken during a period just prior to onset of central nervous system illness. The detection of virus in feces of an acutely ill patient cannot be viewed as without likelihood of error. It is quite probable in view of the passages made, and particularly in the absence of homotypic humoral antibody, that isolation of WEE virus in a human stool sample was inadvertent and wholly unrelated to the patient's illness. Finally, the detection of WEE in *C. tarsalis* is an old story; however, most of the isolations have been made in California and only one previous isolation has been recorded in the Mid-western States (11).

One of the important public health aspects of the outbreak is the recognition that in this small geographic area two, and very probably three, neurotropic virus diseases invaded and caused manifest illness in persons during the summer months. Poliomyelitis and western equine encephalomyelitis viruses were actively present. The demonstrated absence of poliomyelitis and WEE viruses in the majority of the sick adults as indicated by tests made for virus and antibody make it appear more than probable that another neurotropic virus was active in causing the illnesses these persons experienced. Insofar as we have studied this material, we have not been able to define the etiologic agent(s).

## Summary

A study has been made of an outbreak of encephalitis in Barnes County, North Dakota, during the summer of 1949. Evidence has been adduced to the effect that in a small geographic area three distinct types of central nervous system illnesses prevailed during a brief period of time. Poliomyelitis and western equine encephalitis occurred. Pertinent, however, is the fact that the majority of those ill did not have antibodies for the recognized neurotropic viruses present in this area, indicating the probable existence of a third neurotropic virus, not as yet detected and identified.

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## **Communities Awarded Milk Sanitation Ratings of 90 Percent or More, July 1949-June 1951**

Fifty-four communities have been added to the Public Health Service "honor roll" of safe milk communities in the latest revision of the semiannual publication of the list. At the same time, 21 communities on the previous list have been dropped. This revision covers the period from July 1, 1949, to June 30, 1951, and includes a total of 211 cities and counties.

To achieve a place on the "honor roll," a community must be reported to the Public Health Service, by the State milk sanitation authorities concerned, as having complied substantially during that 2-year period with the various items of sanitation required by the Public Health Service Milk Ordinance. The items include such matters as the health of cows, sanitary methods of handling milk, proper cooling, and adequate pasteurization. The rating of 90 percent or more, which is necessary for inclusion on the list, is computed from the weighted average of the percentages of compliance. Separate lists are compiled for communities in which all market milk is pasteurized and for those in which both raw and pasteurized milk is sold.

The Public Health Service Milk Ordinance, which forms the basis for the milk ratings, is now in effect through voluntary adoption in 369 counties and 1,492 municipalities in 39 States. Thirteen States have placed it in effect on a State-wide basis; it has been adopted as regulation by 34 States and Territories. The ordinance, the rating procedure, and the compilation of this list are the work of the Milk and Food Branch, Division of Sanitation.

Although the ratings do not represent a complete measure of safety, they do indicate how closely a community's milk supply conforms to the standards for grade A milk as stated in the Public Health Service Milk Ordinance. High grade pasteurized milk is safer than high grade raw milk because of the added protection of pasteurization. The list, therefore, shows the percentage of the community's milk which is pasteurized. The Surgeon General has frequently urged consumers who are dependent on raw milk to pasteurize it at home, and has issued instructions on methods of home pasteurization.

Although semiannual publication of the list is intended to encourage communities operating under the Public Health Service Ordinance to attain and maintain a high level of enforcement of its provisions, no comparison is intended with communities operating under other milk ordinances. Some communities might be deserving of inclusion, but

**Communities Awarded Milk Sanitation Ratings of 90 Percent or More,  
July 1949-June 1951**

**ALL MARKET MILK PASTEURIZED**

| Community                            | Percent of milk pasteurized | Date of rating | Community                            | Percent of milk pasteurized | Date of rating |  |  |  |
|--------------------------------------|-----------------------------|----------------|--------------------------------------|-----------------------------|----------------|--|--|--|
| <b>ALABAMA</b>                       |                             |                |                                      |                             |                |  |  |  |
| Auburn.....                          | 100                         | Sept. 29, 1949 | Clinton.....                         | 100                         | July 12, 1950  |  |  |  |
| Birmingham and Jefferson County..... | 100                         | Nov. 17, 1949  | Dodge City.....                      | 100                         | Apr. 11, 1951  |  |  |  |
| Montgomery.....                      | 100                         | May 11, 1950   | Erie.....                            | 100                         | May 1, 1951    |  |  |  |
| Opelika.....                         | 100                         | June 15, 1950  | Hillsboro.....                       | 100                         | Feb. 8, 1951   |  |  |  |
| <b>ARKANSAS</b>                      |                             |                |                                      |                             |                |  |  |  |
| Fort Smith.....                      | 100                         | Dec. 15, 1950  | Kansas City.....                     | 100                         | Dec. 11, 1950  |  |  |  |
| <b>COLORADO</b>                      |                             |                |                                      |                             |                |  |  |  |
| Colorado Springs.....                | 100                         | Nov. —, 1949   | Pittsburgh.....                      | 100                         | Jan. 26, 1951  |  |  |  |
| Cortez.....                          | 100                         | July —, 1950   | <b>KENTUCKY</b>                      |                             |                |  |  |  |
| Durango.....                         | 100                         | July —, 1950   | Bowling Green and Warren County..... | 100                         | July 13, 1950  |  |  |  |
| Grand Junction.....                  | 100                         | Mar. 29, 1950  | Hopkinsville.....                    | 100                         | Mar. —, 1950   |  |  |  |
| <b>FLORIDA</b>                       |                             |                |                                      |                             |                |  |  |  |
| St. Petersburg.....                  | 100                         | Jan. 12, 1950  | Mayfield and Graves County.....      | 100                         | May 11, 1950   |  |  |  |
| <b>GEORGIA</b>                       |                             |                | Mount Sterling.....                  | 100                         | Aug. 16, 1950  |  |  |  |
| Cairo.....                           | 100                         | May 31, 1951   | Murray.....                          | 100                         | Apr. 19, 1950  |  |  |  |
| Calhoun.....                         | 100                         | Feb. 15, 1951  | Owensboro.....                       | 100                         | Nov. 17, 1950  |  |  |  |
| Columbus.....                        | 100                         | Mar. 30, 1951  | Paducah.....                         | 100                         | May 5, 1950    |  |  |  |
| Cordelle.....                        | 100                         | Sept. 8, 1949  | Paris.....                           | 100                         | May 17, 1951   |  |  |  |
| LaGrange.....                        | 100                         | June 25, 1951  | <b>MISSISSIPPI</b>                   |                             |                |  |  |  |
| Quitman.....                         | 100                         | May 30, 1951   | Corinth.....                         | 100                         | June 6, 1951   |  |  |  |
| West Point.....                      | 100                         | June 22, 1951  | Tupelo.....                          | 100                         | Apr. 20, 1951  |  |  |  |
| <b>IDAHO</b>                         |                             |                |                                      |                             |                |  |  |  |
| Idaho Falls.....                     | 100                         | Aug. 24, 1949  | Cape Girardeau.....                  | 100                         | Oct. 25, 1950  |  |  |  |
| <b>ILLINOIS</b>                      |                             |                | Chillicothe.....                     | 100                         | Oct. 8, 1950   |  |  |  |
| Chicago.....                         | 100                         | Oct. 28, 1949  | Columbia.....                        | 100                         | Dec. 13, 1950  |  |  |  |
| Decatur.....                         | 100                         | Apr. 27, 1950  | Concordia.....                       | 100                         | June 7, 1950   |  |  |  |
| East Moline.....                     | 100                         | May 18, 1950   | Eldon.....                           | 100                         | Dec. 14, 1950  |  |  |  |
| Elgin.....                           | 100                         | Dec. 8, 1949   | Jackson.....                         | 100                         | Oct. 25, 1950  |  |  |  |
| Joliet.....                          | 100                         | July 14, 1950  | St. Joseph.....                      | 100                         | June 14, 1951  |  |  |  |
| Moline.....                          | 100                         | May 18, 1950   | <b>NORTH CAROLINA</b>                |                             |                |  |  |  |
| North Shore Communities.....         | 100                         | Nov. 7, 1949   | Charlotte.....                       | 100                         | Feb. 23, 1950  |  |  |  |
| Glenoee.....                         |                             |                | Cumberland County.....               | 100                         | Feb. 10, 1950  |  |  |  |
| Highland Park.....                   |                             |                | Durham County.....                   | 100                         | June 8, 1950   |  |  |  |
| Kenilworth.....                      |                             |                | Forsyth County.....                  | 100                         | Nov. 22, 1950  |  |  |  |
| Lake Bluff.....                      |                             |                | High Point.....                      | 100                         | Feb. 16, 1951  |  |  |  |
| Lake Forest.....                     |                             |                | Mars Hill.....                       | 100                         | Dec. 9, 1949   |  |  |  |
| Northfield.....                      |                             |                | New Hanover County.....              | 100                         | June 16, 1950  |  |  |  |
| Skokie.....                          |                             |                | Randolph County.....                 | 100                         | Mar. 9, 1951   |  |  |  |
| Winnetka.....                        |                             |                | Transylvania County.....             | 100                         | Jan. 16, 1950  |  |  |  |
| Oak Park.....                        | 100                         | Sept. —, 1949  | Wilson.....                          | 100                         | Aug. 2, 1950   |  |  |  |
| Peoria.....                          | 100                         | Apr. 15, 1950  | <b>OKLAHOMA</b>                      |                             |                |  |  |  |
| Rock Island.....                     | 100                         | May 10, 1950   | Ardmore.....                         | 100                         | July 28, 1950  |  |  |  |
| Silvis.....                          | 100                         | May 18, 1950   | Cushing.....                         | 100                         | Feb. 10, 1950  |  |  |  |
| Waukegan.....                        | 100                         | Nov. 2, 1949   | Duncan.....                          | 100                         | Oct. 4, 1950   |  |  |  |
| <b>INDIANA</b>                       |                             |                | Guthrie.....                         | 100                         | May 26, 1950   |  |  |  |
| Anderson.....                        | 100                         | Dec. 19, 1949  | Sulphur.....                         | 100                         | Aug. 29, 1950  |  |  |  |
| Bedford-Orleans.....                 | 100                         | Sept. —, 1950  | <b>SOUTH DAKOTA</b>                  |                             |                |  |  |  |
| Bluffton.....                        | 100                         | Dec. 14, 1950  | Sioux Falls.....                     | 100                         | Sept. 21, 1950 |  |  |  |
| Calumet Region.....                  | 100                         | June —, 1950   | <b>TENNESSEE</b>                     |                             |                |  |  |  |
| East Chicago.....                    |                             |                | Athens.....                          | 100                         | June 14, 1950  |  |  |  |
| Gary.....                            |                             |                | Bristol.....                         | 100                         | Nov. 4, 1949   |  |  |  |
| Hammond.....                         |                             |                | Chattanooga.....                     | 100                         | Oct. 26, 1949  |  |  |  |
| Whiting.....                         |                             |                | Columbia.....                        | 100                         | Apr. 20, 1950  |  |  |  |
| Evansville.....                      | 100                         | Aug. —, 1950   | Covington.....                       | 100                         | Aug. 15, 1950  |  |  |  |
| LaPorte.....                         | 100                         | May —, 1950    | Dyersburg.....                       | 100                         | Aug. 17, 1950  |  |  |  |
| Marion and Gas City.....             | 100                         | Apr. —, 1951   | Franklin.....                        | 100                         | May 5, 1950    |  |  |  |
| Shelbyville.....                     | 100                         | Oct. —, 1950   |                                      |                             |                |  |  |  |
| South Bend.....                      | 100                         | Dec. —, 1949   |                                      |                             |                |  |  |  |
| Vincennes.....                       | 100                         | May —, 1951    |                                      |                             |                |  |  |  |

\*Not operating under milk ordinance recommended by the Public Health Service.

**Communities Awarded Milk Sanitation Ratings of 90 Percent or More,  
July 1949-June 1951—Continued**

**ALL MARKET MILK PASTEURIZED—Continued**

| Community                          | Percent of milk pasteurized | Date of rating | Community           | Percent of milk pasteurized | Date of rating |  |  |  |
|------------------------------------|-----------------------------|----------------|---------------------|-----------------------------|----------------|--|--|--|
| <b>TENNESSEE—continued</b>         |                             |                |                     |                             |                |  |  |  |
| Gallatin.....                      | 100                         | May 11, 1951   | San Antonio.....    | 100                         | Mar. 11, 1950  |  |  |  |
| Greenville.....                    | 100                         | Oct. 7, 1949   | San Juan.....       | 100                         | Apr. 5, 1950   |  |  |  |
| Kingsport.....                     | 109                         | Sept. 23, 1949 | Sweetwater.....     | 100                         | Apr. 19, 1950  |  |  |  |
| Knoxville.....                     | 100                         | Sept. 23, 1949 | Texarkana.....      | 100                         | Aug. 5, 1950   |  |  |  |
| Lawrenceburg.....                  | 100                         | Aug. 21, 1950  | Texas City.....     | 100                         | Jan. 16, 1951  |  |  |  |
| Lebanon.....                       | 100                         | July 19, 1950  | Tyler.....          | 100                         | Mar. 2, 1950   |  |  |  |
| Lewisburg.....                     | 100                         | April 17, 1950 | Weslaco.....        | 100                         | Apr. 5, 1950   |  |  |  |
| Manchester.....                    | 100                         | Oct. 5, 1950   | Wichita Falls.....  | 100                         | Jan. 31, 1951  |  |  |  |
| Morristown.....                    | 100                         | Oct. 13, 1949  | <b>UTAH</b>         |                             |                |  |  |  |
| Nashville and Davidson County..... | 100                         | Apr. 10, 1950  | Delta.....          | 100                         | Nov. 17, 1950  |  |  |  |
| Newbern.....                       | 100                         | Aug. 16, 1950  | Minersville.....    | 100                         | Jan. 25, 1951  |  |  |  |
| Paris.....                         | 100                         | April 18, 1951 | <b>VIRGINIA</b>     |                             |                |  |  |  |
| Pulaski.....                       | 100                         | May 24, 1951   | Boydtown.....       | 100                         | Apr. 4, 1950   |  |  |  |
| Springfield.....                   | 100                         | May 8, 1951    | Bristol.....        | 100                         | Nov. 4, 1949   |  |  |  |
| Sweetwater.....                    | 100                         | Oct. 19, 1950  | Buena Vista.....    | 100                         | May 8, 1951    |  |  |  |
| <b>TEXAS</b>                       |                             |                |                     |                             |                |  |  |  |
| Bay City.....                      | 100                         | May 4, 1950    | Lawrenceville.....  | 100                         | Apr. 6, 1950   |  |  |  |
| College Station.....               | 100                         | Sept. 20, 1950 | Lexington.....      | 100                         | May 8, 1951    |  |  |  |
| Corpus Christi.....                | 100                         | Oct. 14, 1950  | Pulaski.....        | 100                         | June —, 1950   |  |  |  |
| Falfurrias.....                    | 100                         | Jan. 12, 1951  | Radford.....        | 100                         | June —, 1950   |  |  |  |
| Gladewater.....                    | 100                         | Jan. 19, 1951  | Richmond.....       | 100                         | May —, 1950    |  |  |  |
| Harlingen.....                     | 100                         | Mar. 20, 1950  | Roanoke.....        | 100                         | Sept. 23, 1950 |  |  |  |
| Houston.....                       | 100                         | June 30, 1950  | Staunton.....       | 100                         | Nov. 3, 1950   |  |  |  |
| Jacksonville.....                  | 100                         | April 12, 1950 | Suffolk.....        | 100                         | May 24, 1950   |  |  |  |
| Kilgore.....                       | 100                         | Jan. 19, 1951  | <b>WASHINGTON</b>   |                             |                |  |  |  |
| Mission.....                       | 100                         | April 5, 1950  | Spokane.....        | 100                         | July 21, 1950  |  |  |  |
| Pharr.....                         | 100                         | April 5, 1950  | Whitman County..... | 100                         | Aug. 16, 1950  |  |  |  |

**BOTH RAW AND PASTEURIZED MARKET MILK**

| ALABAMA                             |      |               | NORTH CAROLINA         |      |                |  |  |  |
|-------------------------------------|------|---------------|------------------------|------|----------------|--|--|--|
| Lanett.....                         | 97.5 | Nov. 9, 1950  | Alexander County.....  | 73.5 | Mar. 31, 1950  |  |  |  |
| <b>GEORGIA</b>                      |      |               | Avery County.....      | 73.5 | July 12, 1949  |  |  |  |
| Camilla.....                        | 78   | May 30, 1951  | Cabarrus County.....   | 73.4 | Jan. 20, 1950  |  |  |  |
| Cartersville.....                   | 94.2 | Feb. 15, 1951 | Greensboro.....        | 99.7 | July 27, 1950  |  |  |  |
| Dalton-Whitfield County.....        | 83.3 | April 4, 1951 | Henderson County.....  | 86   | Feb. 6, 1950   |  |  |  |
| Macon.....                          | 98.6 | June 15, 1951 | Iredell County.....    | 95.7 | Oct. 27, 1950  |  |  |  |
| Thomaston.....                      | 79.7 | May 24, 1950  | Macon County.....      | 91.4 | Aug. 10, 1950  |  |  |  |
| Thomasville.....                    | 99.4 | May 29, 1951  | Montgomery County..... | 93.1 | Mar. 22, 1951  |  |  |  |
| <b>INDIANA</b>                      |      |               | Orange County.....     | 96.1 | May 11, 1950   |  |  |  |
| Michigan City.....                  | 98   | May —, 1950   | Wilkes County.....     | 89.7 | Jan. 25, 1950  |  |  |  |
| <b>IOWA</b>                         |      |               | <b>OKLAHOMA</b>        |      |                |  |  |  |
| Davenport.....                      | 99   | Jan. 27, 1950 | Elk City.....          | 95.5 | July 12, 1950  |  |  |  |
| <b>KANSAS</b>                       |      |               | Holdenville.....       | 89   | Mar. 28, 1950  |  |  |  |
| Neodesha.....                       | 85   | Mar. 14, 1951 | Lawton.....            | 96.2 | Feb. 20, 1950  |  |  |  |
| <b>KENTUCKY</b>                     |      |               | Mangum.....            | 93.8 | June 29, 1950  |  |  |  |
| Lexington and Fayette Counties..... | 96   | June 23, 1950 | Norman.....            | 94.1 | Sept. 22, 1950 |  |  |  |
| <b>LOUISIANA</b>                    |      |               | Ponca City.....        | 93.1 | Sept. 15, 1950 |  |  |  |
| Iberia Parish.....                  | 96   | May 3, 1951   | Stillwater.....        | 96   | July 7, 1949   |  |  |  |
| <b>MISSOURI</b>                     |      |               | Sulphur.....           | 98   | Sept. 6, 1949  |  |  |  |
| Boonville.....                      | 87   | Oct. 12, 1950 | <b>TENNESSEE</b>       |      |                |  |  |  |
| Jefferson City.....                 | 88.5 | July 20, 1950 | Cleveland.....         | 94.4 | Sept. 7, 1950  |  |  |  |
| Moberly.....                        | 92.5 | Oct. 13, 1949 | Elizabethhton.....     | 94   | Aug. 8, 1950   |  |  |  |
| Sedalia.....                        | 92.5 | Aug. 17, 1950 | Jackson.....           | 95.8 | Mar. 30, 1950  |  |  |  |
| Springfield.....                    | 99   | Nov. 10, 1950 | Johnson City.....      | 96.6 | Aug. 9, 1950   |  |  |  |
| <b>TEXAS</b>                        |      |               | Maryville-Alcoa.....   | 99.2 | Oct. 17, 1950  |  |  |  |
| Beaumont.....                       | 99.4 |               | McMinnville.....       | 95.1 | May 25, 1950   |  |  |  |
| Brenham.....                        | 92   |               | Murfreesboro.....      | 98   | July 27, 1949  |  |  |  |
| Brownsville.....                    | 84.8 |               | Bryan.....             | 98.8 | Sept. 21, 1950 |  |  |  |

**Communities Awarded Milk Sanitation Ratings of 90 Percent or More,  
July 1949-June 1951—Continued**

**BOTH RAW AND PASTEURIZED MARKET MILK—Continued**

| Community              | Percent of milk pasteurized | Date of rating | Community      | Percent of milk pasteurized | Date of rating |
|------------------------|-----------------------------|----------------|----------------|-----------------------------|----------------|
| <b>TEXAS—continued</b> |                             |                |                |                             |                |
| Cleburne.....          | 91.5                        | Nov. 17, 1950  | Emporia.....   | 34                          | Apr. 7, 1950   |
| Corsicana.....         | 99.6                        | Jan. 31, 1950  | Lynchburg..... | 98.2                        | June 22, 1951  |
| Edinburg.....          | 85.9                        | Apr. 5, 1950   |                |                             |                |
| Fort Worth.....        | 99.95                       | Feb. 4, 1950   |                |                             |                |
| Laredo.....            | 62                          | Aug. 24, 1950  |                |                             |                |
| Longview.....          | 99.4                        | Jan. 19, 1951  |                |                             |                |
| Lubbock.....           | 99.2                        | Nov. 8, 1950   |                |                             |                |
| McAllen.....           | 98.4                        | Apr. 5, 1950   |                |                             |                |
| Paris.....             | 92.4                        | Nov. 16, 1950  |                |                             |                |

NOTE.—In these communities the pasteurized market milk shows a 90-percent or more compliance with the grade A pasteurized milk requirements and the raw market milk shows a 90-percent or more compliance with the grade A raw milk requirements of the Public Health Service Milk Ordinance and Code.

Note particularly the percentage of milk pasteurized in the various communities listed. This percentage is an important factor to consider in estimating the safety of a city's milk supply. All milk should be pasteurized or boiled, either commercially or at home, before it is consumed.

they cannot be listed because no arrangements have been made for determination of their ratings by the State milk sanitation authority concerned. In other cases, the ratings which were submitted have lapsed because they were over 2 years old. Still other communities, some of which may have high grade milk supplies, have indicated no desire for rating or inclusion.

The rules for inclusion of a community on the "honor roll" are:

1. All ratings must be determined by the State milk sanitation authority in accordance with the Public Health Service rating method,<sup>1</sup> which is based upon the grade A pasteurized milk and the grade A raw milk requirements of the Public Health Service Milk Ordinance. (A recent departure from the method described consists of computing the pasteurized milk rating by weighting the pasteurization plant rating twice that of the raw milk intended for pasteurization.)

2. No community will be included in the list unless both its pasteurized milk and its raw milk ratings are 90 percent or more. Communities in which only raw milk is sold will be included if the raw milk rating is 90 percent or more.

3. The rating used will be the latest submitted to the Public Health Service, but no rating will be used which is more than 2 years old. (In order to promote continuous rigid enforcement rather than occasional "clean-up campaigns," it is suggested that when the rating of a community on the list falls below 90 percent no resurvey be made for at least 6 months. This will result in the removal of the community from the subsequent semiannual list.)

4. No community will be included on the list whose milk supply is not under an established program of official routine inspection and laboratory control provided by itself, the county, a milk control district, or the State. (In the absence of such an official program there can be no assurance that only milk from sources rating 90 percent or more will be used continuously.)

5. The Public Health Service will make occasional check surveys of cities for which ratings of 90 percent or more have been reported by the State. (If the check rating is less than 90 percent, but not less than 85, the city will be removed

<sup>1</sup> Pub. Health Rep. 53:1386 (1938). Reprint No. 1970.

from the 90-percent list after 6 months unless a resurvey submitted by the State during this probationary interim shows a rating of 90 percent or more. If the check rating is less than 85 percent, the city will be removed from the list immediately. If the check rating is 90 percent or more, the city will be retained on the list for 2 years from the date of the check survey, unless a subsequent rating during this period warrants its removal.)

State milk sanitation authorities who are not now equipped to determine municipal ratings are urged, in fairness to their communities, to equip themselves as soon as possible. The personnel required is small; in most States one milk sanitarian is sufficient for this work.

## Public Health Service Publications

**July-December 1950**

This list is issued to provide a complete and continuing record of Public Health Service publications for reference use by librarians, scientists, researchers, and others interested in public health work, and not to offer the publications for indiscriminate free distribution.

Single sample copies of most of the publications listed are available from the Public Inquiries Branch, Division of Public Health Methods, Public Health Service, Washington 25, D. C.

For quantities of any of these publications, except the statistical reports of the National Office of Vital Statistics, order from the Government Printing Office, where they are available at the prices shown, with a 25 percent reduction on orders of 100 or more copies of any single publication. The statistical reports of the National Office of Vital Statistics can be obtained only by writing to the National Office of Vital Statistics, Public Health Service, Washington 25, D. C.

### PERIODICALS

\*Public Health Reports (weekly), July-December, vol. 65, Nos. 27-52. 851-1764 pages. 10 cents a copy. Subscription price \$4.75 a year.

\*Extracts from Public Health Reports (monthly), July-December, Tuberculosis Control Issues Nos. 53-58. Average 30 pages each. 10 cents a copy. Subscription price \$1 a year.

\*The Journal of Venereal Disease Information (monthly), July-December, vol. 31, Nos. 7-12. 173-347 pages. 15 cents a copy. Subscription price \$1.25 a year.

\*Journal of the National Cancer Institute (bimonthly), August to December, vol. 11, Nos. 1-3. 1-662 pages. \$1.50 a copy. Subscription price \$8 a year. Public Health Engineering Abstracts (monthly), July-December, vol. XXX, Nos. 7-12. Usually 32 pages each. No sales stock.

\*Industrial Hygiene Newsletter (monthly), July-December, vol. 10, Nos. 7-12. Usually 16 pages each. 10 cents a copy. Subscription price \$1 a year.

CDC Bulletin (monthly), July-December, vol. IX, Nos. 7-12. No sales stock.

### NONPERIODIC PUBLICATIONS

#### *Librarians, Please Note*

Nearly all publications on this list carry the designation "Public Health Service Publication No. —." This does not represent a new series, but is a registration system adopted late in 1950 as an internal housekeeping measure. Under the numbering plan, all nonperiodic

\*Subscriptions to this periodical can be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

issuances carry this designation, which is assigned consecutively at the time of going to press. Publications issued prior to adoption of the numbering plan do not carry this designation and will not be incorporated into the system unless they are reissued.

The following series have been discontinued:

Supplements to Public Health Reports—last issued: No. 213 (1950).

Supplements to Journal of Venereal Disease Information—last issued: No. 23 (1949).

National Institutes of Health Bulletins—last issued: No. 193 (in press).

Public Health Bulletins—last issued: No. 306 (1949). (A bulletin on rural health cooperatives, jointly prepared by the Farm Credit Administration and the Public Health Service which was published by the Farm Credit Administration, was erroneously identified as Public Health Bulletin No. 308.)

Venereal Disease Bulletins—last issued: No. 100 (1949).

*Series to Continue.* Publications with a subject and field homogeneity will continue to be issued in series. In addition to the registration number given them under the over-all numbering system, they will carry the conventional series notation long familiar to librarians. Publications issued as part of a series are shown first on this list.

*Missing Numbers.* Under the new numbering system, publications are assigned registration numbers at the time they go to the printer. Variations in printing schedules result in publications being released out of the consecutive order of the Public Health Service Publications number, and some will be temporarily missing. One publication (No. 36), prepared for in-service use and not for general distribution, was inadvertently numbered. No. 36, therefore, will be permanently missing from library files.

#### **PUBLIC HEALTH BIBLIOGRAPHY SERIES\***

2. Catalog of mental health pamphlets and reprints available for distribution, 1950. 1950. 55 pages. 20 cents. (PHS Publication No. 19.)

#### **CANCER MORBIDITY SERIES\***

1. Cancer illness among residents in Atlanta, Ga., 1947. By Sidney J. Cutler, 1950. 43 pages. No sales stock. (PHS Publication No. 13.)

#### **CANCER PAMPHLET SERIES**

6. Cancer of the genito-urinary tract. 1950. 20 pages. 10 cents; \$5 per 100.
7. Cancer of the skin. 1950. 19 pages. 10 cents; \$5 per 100.

#### **HEALTH INFORMATION PAMPHLET SERIES**

9. Arthritis and rheumatism. July 1950. 6-page folder. 5 cents; \$1.75 per 100. (PHS Publication No. 29.)
33. Tuberculosis. June 1950. 12 pages. 5 cents; \$3.75 per 100. (PHS Publication No. 30.)

\* New series.

## **MENTAL HEALTH SERIES**

2. Training and research opportunities under the National Mental Health Act. Revised June 1950. 11 pages. 14 pages mimeographed inserts. 10 cents. (PHS Publication No. 22.)
4. National Institute of Mental Health. Revised 1950. 21 pages. 10 cents. (PHS Publication No. 20.)
5. Careers in mental health. 1950. 19 pages. 15 cents. (PHS Publication No. 23.)
- 5A. Careers in mental health . . . as a psychiatrist. 1950. 13 pages. 10 cents. (PHS Publication No. 25.)
- 5B. Careers in mental health . . . as a psychiatric nurse. 1950. 13 pages. 10 cents. (PHS Publication No. 26.)
- 5C. Careers in mental health . . . as a clinical psychologist. 1950. 13 pages. 10 cents. (PHS Publication No. 27.)
- 5D. Careers in mental health . . . as a psychiatric social worker. 1950. 12 pages. 10 cents. (PHS Publication No. 28.)

## **PUBLIC HEALTH MONOGRAPH SERIES\***

1. A methodology for environmental and occupational cancer surveys. By W. C. Hueper. 1950. 37 pages. 15 cents. (PHS Publication No. 12.)
2. Tuberculosis in Iceland. Epidemiological studies. By Sigurdur Sigurdsson. 1950. 86 pages. 45 cents. (PHS Publication No. 21.)

## **OTHER PUBLICATIONS**

- Cancer diagnostic tests. Principles and criteria for development and evaluation. By John E. Dunn, Jr., and Samuel W. Greenhouse. 1950. 23 pages. 20 cents. (PHS Publication No. 9.)
- Cancer services and facilities in the United States, 1950. 1950. 152 pages. 35 cents. (PHS Publication No. 14.)
- Clean water is everybody's business. 1950. 26 pages, illustrated. 20 cents. (PHS Publication No. 11.)
- Conservation of hearing. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 1.)
- Conservation of vision. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 3.)
- The dietitian in the hospitals of the U. S. Public Health Service. 1950. 24 pages, illustrated. 15 cents. (PHS Publication No. 35.)
- Handbook for photofluorographic operators. 1950. 69 pages, illustrated. 45 cents. (PHS Publication No. 18.)
- Health of ferrous foundrymen in Illinois. 1950. 130 pages, illustrated. 75 cents. (PHS Publication No. 31.)
- Heart disease, a story of progress. 1950. 20 pages. 15 cents. (PHS Publication No. 17.)
- Home care. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 4.)
- Index of hospitals with tuberculosis beds in the United States and Territories as of January 1, 1950. 1950. 21 pages. No sales stock. (PHS Publication No. 32.)
- Individual water supply systems. Recommendations of the Joint Committee on Rural Sanitation. Revised 1950. 61 pages. 20 cents. (PHS Publication No. 24.) (Formerly Supplement 185, Public Health Reports.)
- Industrial health and medical programs. By Margaret C. Klem, Margaret F. McKiever, and Walter J. Lear. September 1950. 397 pages. \$1. (PHS Publication No. 15.)

- Long term illness. 1950. 8 pages, illustrated. Out of print. (PHS Publication No. 2.)
- Manual for medical examination of aliens. 1950. 136 pages. (For official use only.)
- Manual of recommended practice for sanitary control of the shellfish industry. 1946 recommendations of the Public Health Service. 1950. 44 pages. 20 cents. (PHS Publication No. 33.) (Formerly Public Health Bulletin No. 295.)
- Medical rehabilitation. 1950. 8 pages, illustrated. Out of print. (PHS Publication No. 5.)
- Multiple screening. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 7.)
- Obesity. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 6.)
- The public health nurse in your community. 1950. 14 pages, illustrated. 10 cents. (PHS Publication No. 47.)
- Suggested State Water Pollution Control Act and explanatory statement. October 1950. 23 pages. No sales stock. (PHS Publication No. 49.)
- There's no place like home—for accidents. 1950. 8 pages, illustrated. No sales stock. (PHS Publication No. 34.)
- The United States cadet nurse corps, 1943-48. 1950. 100 pages; 17 photographs. \$1. (PHS Publication No. 38.)
- You'll want to know about your hospital program. 1950. 2-page folder. 5 cents; \$1.50 per 100. (PHS Publication No. 8.)
- Your best buy. 1950. 5 pages, illustrated. 5 cents.

#### REPRINTS FROM PUBLIC HEALTH REPORTS

3031. Child health services in 12 metropolitan districts. By Maryland Y. Pennell, Katherine Bain, and John P. Hubbard. July 21, 1950. 16 pages. 10 cents.
3032. Effect of formaldehyde on the direct microscopic count of raw milk. By B. S. Levine. July 28, 1950. 8 pages. 10 cents.
3033. Field tests of molluscacides against *Australorbis glabratus* in endemic areas of schistosomiasis in Puerto Rico. By E. G. Berry, M. O. Nolan, and J. Oliver Gonzalez. July 28, 1950. 12 pages. 5 cents.
3034. The visual identification of V and W form colonies in *Salmonella* cultures. By Maurice Landy. July 28, 1950. 2 pages. 5 cents.
3035. The physiological response to dust from mine locomotive traction material. By Lawrence T. Fairhall, Benjamin Highman, and Vernon B. Perone. August 11, 1950. 18 pages; 15 illustrations. 10 cents.
3036. 1080 (sodium fluoroacetate) poisoning of rats on ships. By John H. Hughes. August 11, 1950. 8 pages; 2 illustrations. 5 cents.
3037. Bactericidal efficiency of quaternary ammonium compounds. By C. T. Butterfield, Elsie Wattie, and C. W. Chambers. August 18, 1949. 18 pages. 10 cents.
3028. Haplomycesis in Montana rabbits, rodents, and carnivores. By William L. Jellison. August 18, 1950. 8 pages; 1 illustration. 5 cents.
3039. The role of morbidity reporting and case registers in cancer control. By Sidney J. Cutler. August 25, 1950. 6 pages. 5 cents.
3040. Public Health Service publications July-December 1949. August 25, 1950. 12 pages. No sales stock.
3041. Relapse following apparent arrest of leprosy by sulfone therapy. By Paul T. Erickson. September 8, 1950. 12 pages. 5 cents.
3042. Availability of fluorine in sodium fluoride against sodium fluosilicate. By F. J. McClure. September 15, 1950. 12 pages. 5 cents.

3043. Why cancer "control"? By Raymond F. Kaiser. September 22, 1950. 6 pages. 5 cents.
3044. Trends in age distribution of diphtheria in the United States. By C. C. Dauer. September 22, 1950. 10 pages. 5 cents.
3045. Tularemia in man from a domestic rural water supply. By W. L. Jellison, Deane C. Epler, Edith Kuhns, and Glen M. Kohls. September 22, 1950. 8 pages. 5 cents.
3046. Specific causes of illness found in monthly canvasses of families. Sample of the Eastern Health District of Baltimore, 1938-43. By Selwyn D. Collins, F. Ruth Phillips, and Dorothy S. Oliver. September 29, 1950. 30 pages. 10 cents.
3047. Tularemia. Geographical distribution of "deerfly fever" and the biting fly, *Chrysops discalis* Williston. By William L. Jellison. October 13, 1950. 9 pages. 5 cents.
3048. Detection of diabetes in a nutrition survey. A study of 550 persons in Ottawa County, Mich. By Elbert C. Tabor and Keith H. Frankhouser. October 13, 1950. 6 pages. 5 cents.
3049. A new *coli* O-antigen group. By W. H. Ewing and F. Kauffmann. October 13, 1950. 4 pages. 5 cents.
3050. Multiple screening and specialized programs. By Joseph W. Mountin. October 20, 1950. 10 pages. 5 cents.
3051. Rural health cooperatives. By Helen L. Johnston. October 27, 1950. 16 pages. 5 cents.
3052. The cancer program in medical schools. A review. By Raymond F. Kaiser. October 27, 1950. 6 pages. 5 cents.
3053. Studies on mass control of dental caries through fluoridation of the public water supply. By H. Trendley Dean, Francis A. Arnold, Jr., Philip Jay, and John W. Knutson. October 27, 1950. 6 pages. 5 cents.
3054. Hospital beds in the United States, 1950. By John W. Cronin, Louis S. Reed, and Anna Mae Baney. November 10, 1950. 13 pages. 5 cents.
3055. The Alkalescens-Dispar group. By W. H. Ewing, M. W. Taylor, and M. C. Hucks. November 10, 1950. 8 pages. 5 cents.
3056. Laboratory tests on the rapidity of molluscacidal action of copper sulfate in high concentration. By M. O. Nolan. November 10, 1950. 5 pages. 5 cents.
3057. Health resources in defense of the Nation. November 17, 1950. 36 pages. 15 cents.
3058. Control of Norway rats with residual rodenticide warfarin. By Wayland J. Hayes, Jr., and Thomas B. Gaines. November 24, 1950. 20 pages. 10 cents.
3059. Industrial sickness absenteeism. Males and females, 1949, and males, first and second quarters, 1950. By W. M. Gafafer. November 24, 1950. 6 pages. 5 cents.
3060. Public health: 1950. A topical and selective report of the Seventy-eighth Annual Meeting of the American Public Health Association and Related Organizations, St. Louis, Mo., October 30-November 3, 1950. December 8 and 15, 1950. 84 pages. 30 cents.
3061. Public Health Service publications, January-June 1950. December 22, 1950. 8 pages. No sales stock.
3062. Causes of absenteeism in New Haven schools. By Joseph I. Linde, Abraham Gelperin, and Morris A. Granoff. December 29, 1950. 8 pages. 5 cents.

## SUPPLEMENT TO PUBLIC HEALTH REPORTS

194. Directory of full-time local health officers, 1950. 1950 revision. 49 pages. 23  
20 cents.

## INDEX TO PUBLIC HEALTH REPORTS

- Index to Public Health Reports, vol. 64, pt. I, January-June 1949. 40 pages. 23  
10 cents.

## REPRINTS FROM JOURNAL OF THE NATIONAL CANCER INSTITUTE\*

215. The growth of normal plant tissue *in vitro* as affected by chemical carcinogens and plant growth substances. II. The cytology of the carrot-root tissue. By Michael Levine. April 1950. 37 pages; 11 illustrations. 39  
216. Histopathology of estrogen-induced tumors in guinea pigs. By Eli M. Nadel. April 1950. 23 pages; 7 illustrations. 40  
217. Production of malignancy *in vitro*. X. Continued description of cells at the glass interface of the cultures. By Wilton R. Earle, Edward L. Schilling, and Emma Shelton. April 1950. 37 pages; 11 illustrations. 40  
218. Production of malignancy *in vitro*. XI. Further results from reinjection of *in vitro* cell strains into strain C<sub>3</sub>H mice. By Wilton R. Earle, Emma Shelton, and Edward L. Schilling. April 1950. 9 pages. 40  
219. A comparative study of the morphology and glucuronidase activity in 44 gastrointestinal neoplasia. By William H. Fishman and Robert Bigelow. April 1950. 8 pages. 40  
220. Inhibition of sea-urchin egg cleavage by a series of substituted carbamates. By Ivor Cornman. April 1950. 16 pages. 40  
221. Factors in the development of spontaneous mammary gland tumors in agent-free strain C<sub>3</sub>Hb mice. By W. E. Heston, Margaret K. Deringer, Thelma B. Dunn, and Wayne D. Levillain. April 1950. 17 pages; 2 illustrations. 40  
222. Attempt to detect a mammary tumor-agent in strain C mice by X-radiation. By Howard B. Andervont and Thelma B. Dunn. April 1950. 33 pages; 4 illustrations. 40  
223. Studies on fatty acid oxidation by normal and neoplastic liver. By Carl G. Baker and Alton Meister. April 1950. 8 pages. 40  
224. Comparative studies of liver glucuronidase activity in inbred mice. By Andrew G. Morrow, Ezra M. Greenspan, and Dorothy M. Carroll. April 1950. 5 pages. 41  
225. Studies of the carcinogenic action in the rat of 2-nitro-, 2-amino-, 2-acetyl-amino-, and 2-diacetylamino-fluorene after ingestion and after painting. By Harold P. Morris, Celia S. Dubnik, and James M. Johnson. June 1950. 13 pages. 41  
226. Studies of the effects *in vitro* of roentgen radiation on the biological activity of the agent of chicken tumor I (Rous sarcoma). By W. Ray Bryan, Egon Lorenz, and John B. Moloney. June 1950. 23 pages. 41  
227. Formation of tyrosine crystals from leukocytes and various normal and pathological tissues by means of a synthetic detergent. By William W. Ayres. June 1950. 19 pages; 4 illustrations. 41  
228. Note on the influence of the number of litters upon the incidence of mammary tumors in mice. By O. Muhlbock. June 1950. 4 pages. 41  
229. Lactic dehydrogenase activity of certain tumors and normal tissues. By Alton Meister. June 1950. 9 pages. 41  
230. Damage induced in sarcoma 37 with podophyllin, podophyllotoxin, alpha-peltatin, beta-peltatin, and quercetin. By J. Leiter, V. Downing, J. L. Hartwell, and M. J. Shear. June 1950. 21 pages; 2 illustrations. 41

\*No sales stock is carried on any of the reprints from the Journal of the National Cancer Institute.

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231. Effect of alpha-peltatin, beta-peltatin, and podophyllotoxin on lymphomas and other transplanted tumors. By Ezra M. Greenspan, J. Leiter, and M. J. Shear. June 1950. 39 pages; 9 illustrations.
  232. The Histochemical Society. First business meeting and proceedings, University of Pennsylvania School of Medicine, Philadelphia, Pa., March 24 and 25, 1950. June 1950. 45 pages.

#### **REPRINTS FROM THE JOURNAL OF VENEREAL DISEASE INFORMATION**

399. A proposal for joint action against congenital syphilis. By Betty Huse and W. H. Aufranc. July 1950. 4 pages. 5 cents.
400. Status of treatment of syphilitic pregnant women and of children who have congenital syphilis. By Mary S. Goodwin. July 1950. 8 pages. 5 cents.
401. How to evaluate positive Kahn tests in infants. By Herman N. Bundesen and Hans C. S. Aron. July 1950. 6 pages. 5 cents.
402. The dentist's role in finding congenital syphilis. By Frank P. Bertram. July 1950. 4 pages. 5 cents.
403. Effectiveness of penicillin in preventing congenital syphilis when administered prior to pregnancy. By H. N. Cole, Frederick Plotke, Evan W. Thomas, and Kenneth H. Jenkins. August 1950. 4 pages. 5 cents.
404. The patient's attitude toward venereal disease education. By C. W. Buck and G. E. Hobbs. August 1950. 5 pages. 5 cents.
405. The identity of *Neisseria* other than the gonococcus isolated from the genito-urinary tract. By Louis Wax. August 1950. 5 pages. 5 cents.
406. Measurement of trend of syphilis in Mississippi. By A. L. Gray, Lida J. Usilton, and Albert P. Iskrant. September 1950. 6 pages. 5 cents.
407. The Ohio National Guard blood-testing program. By Charles R. Freeble, Jr., Earl O. Wright, James F. Donohue, and John B. Bolin. September 1950. 4 pages. 5 cents.
408. Treatment of early syphilis with three injections of penicillin and with one injection of penicillin. II. By R. D. Wright, F. P. Nicholson, and R. C. Arnold. September 1950. 6 pages. 5 cents.
409. The value of divided cerebrospinal fluid specimens. By Richard A. Koch. October 1950. 4 pages. 5 cents.
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412. Gonococci and the menstrual cycle. By Tauno Putkonen and Kaarle Ebeling. October 1950. 5 pages. 5 cents.
413. Results of penicillin treatment in congenital syphilis. By Leland J. Hanchett and Maude A. Perry. November 1950. 10 pages. 5 cents.
414. Special contact investigation of the patients of private physicians. By Benson H. Sklar and Leonard M. Schuman. November 1950. 4 pages. 5 cents.
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416. The treatment of neurosyphilis: Penicillin alone versus penicillin plus arsenic and bismuth. By Edgar B. Johnwick. December 1950. 5 pages. 5 cents.
417. Suggested technics for mass health education at county fairs. By Charles R. Freeble, Jr., Earl O. Wright, James F. Donohue, and Allen D. Pratt. December 1950. 8 pages. 5 cents.

418. The antigens of the cultured *Treponema pallidum* (Reiter's strain) and the antispirochetal antibodies in human syphilis. By G. D'Alessandro, F. G. Oddo, and L. Dardanoni. December 1950. 2 pages. 5 cents.

#### NATIONAL OFFICE OF VITAL STATISTICS PUBLICATIONS\*

Current Mortality Analysis (monthly), vol. 8, Nos. 4-9, 1950.

Monthly Marriage Report (marriage licenses issued in major cities), vol. 4, Nos. 5-10, 1950.

Monthly Vital Statistics Bulletin, vol. 13, Nos. 5-10, 1950.

Weekly Mortality Index, vol. 21, Nos. 26-51, 1950.

Weekly Morbidity Report, vol. 1, Nos. 25-50, 1950.

Communicable Disease Summary, weeks ending June 24, 1950-December 30, 1950.

#### Vital Statistics—Special Reports, Vol. 32, Cancer Mortality in the United States

2. Available cancer mortality data and some problems in their interpretation: United States. 15-40 pages.
3. Cancer mortality for selected sites, by age, sex, and race: United States, 1930-45. 41-154 pages.
4. Cancer mortality for selected years: United States and each State, 1900-1945. 155-180 pages.
5. Cancer deaths in institutions: United States, 1940 and 1945. 181-204 pages.
6. Cancer mortality by marital status: United States, 1940. 205-236 pages.
7. Effect of cancer on longevity: United States, 1939-41. 237-242 pages.
8. Cancer mortality by State and county: United States, 1945. 243-272 pages.
9. Cancer mortality by urban and rural areas: United States, 1945. 273-284 pages.

#### Vital Statistics—Special Reports, Vol. 33, Selected Studies

7. Investigation of separation factors, at ages 1-4, based on 10-percent mortality sample. 127-132 pages.
8. Births and birth rates in the entire United States, 1909-48. 133-162 pages.

#### Vital Statistics—Special Reports, Vol. 34, State Summaries

- 30-54. New Mexico-Wyoming, United States, Hawaii, Puerto Rico, Virgin Islands, Alaska. 523-993 pages.

#### Vital Statistics—Special Reports, Vol. 35, National Summaries

12. Divorce and annulment statistics: specified States, 1948. 161-186 pages.
13. Infant mortality from selected causes by age, race, and sex: United States, 1948. 187-220 pages.
14. Accident fatalities in the United States, 1948. 221-240 pages.
15. Motor-vehicle accidents fatalities, United States, 1948. 241-292 pages.
16. Stillbirth statistics, United States, each division and State, and 92 major cities, 1948. 293-302 pages.
17. Infant mortality by race and by urban and rural areas: United States, each division and State, 1948. 303-312 pages.
18. Deaths and death rates for selected causes by age, race, and sex: United States, 1948. 313-346 pages.
19. Maternal mortality by cause, race, and urban and rural areas: United States, each division and State, 1948. 347-360 pages.

\*Available only from the National Office of Vital Statistics, Public Health Service, Washington 25, D. C.

## **Incidence of Disease**

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

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### **UNITED STATES**

#### **Reports From States for Week Ended August 4, 1951**

##### *Poliomyelitis*

A total of 1,203 cases of poliomyelitis was reported in the United States for the current week as compared with 990 for the previous week. For the same weeks in 1949 and 1950, 2,446 and 1,185 cases, respectively, were reported. The cumulative total for the calendar year is now 6,843 as compared with 10,719 in 1949, and 7,298 in 1950. The cumulative total since the seasonal low week late in March is 5,631 as compared with 9,806 and 6,167, respectively, in 1949 and 1950.

With few exceptions States in all geographical regions reported more cases for the current week as compared with the previous week, but there was no marked increase in California, Texas, Colorado, and Louisiana, where substantial numbers of cases have been reported in the past month. The increase in most of the remaining States appears to represent an expected seasonal rise.

In Texas, poliomyelitis has been concentrated in seven counties. Of the 546 cases reported in the entire State, from May 1 to July 28, 25 were in Bexar, 41 in Dallas, 83 in Harris, 96 in Nueces, 26 in San Patricio, 46 in Tarrant, and 16 in Wichita Counties. In five of the seven counties the peak number of cases was reached before July 15.

In Mississippi, the disease has been concentrated in a group of four counties in the west central part of the State. During the 4-week period ended July 28, 102 cases were reported in Mississippi of which number 28 were in Sunflower, 9 in Washington, 5 in Bolivar, and 4 in Leflore Counties. The largest number reported in any one week in Sunflower County was 14 for the week ended July 21. In 1950, totals of 24, 22, 10, and 10 cases, respectively, were reported in the above group of counties.

In Louisiana, poliomyelitis incidence appears to have passed its peak. In Caddo Parish, where 72 cases were reported in 9 weeks ended July 28, the largest number was reported for the week ended July 21. In Red River Parish, 10 cases were reported for the week ended July 7, and only 1 in the following 3 weeks.

In certain other States such as California, Utah, Colorado, Wisconsin, Illinois, Kansas, and Michigan, a large proportion of cases in recent weeks have been reported from urban areas. In Michigan, nearly three-fourths of the cases reported have been in Detroit and other parts of Wayne County. In Arkansas, about one-half of the 99 cases reported in the first 7 months of 1951 have occurred in Pulaski and Jefferson Counties. There have been 55 paralytic cases, 26 nonparalytic, and 18 unspecified.

#### *Human Rabies*

One case of human rabies was reported in Georgia for the current week.

#### **Epidemiological Reports**

##### *Tularemia*

Dr. M. E. Rindge, Connecticut Department of Health, has reported a case of tularemia in a 17-year-old boy who was scratched by a cat on June 23 while visiting in North Carolina. He became ill on June 27. He was admitted to a hospital in Connecticut on July 13 with typical ulcers at the site of the scratches and large axillary nodes. Agglutination reactions were strongly positive. Recovery was rapid following treatment with terramycin.

##### *Gastroenteritis*

Dr. S. V. Dugan, Kentucky Department of Health, has reported two outbreaks of gastroenteritis. Five of eight persons who ate a frosted, filled cake in a restaurant in Mercer County became ill 3½ hours later. A family outbreak consisting of four cases occurred in Allen County. A homemade chocolate pie or raw buttermilk was suspected as being the vehicle. The source of the milk was an unsanitary three-cow dairy where raw milk and buttermilk were sold.

##### *Infectious Hepatitis*

Dr. C. C. Kuehn, Louisiana Department of Health, has reported a localized outbreak of infectious hepatitis in Baton Rouge. The parish health officer, Dr. J. D. Martin, states that six of the seven cases reported were between the ages of 4 and 9. All were white persons. The first cases were reported early in June, and the last in the middle of July.

##### *Water-Borne Gastroenteritis*

Dr. F. S. Leeder, Michigan Department of Health, has reported an outbreak of gastroenteritis in Macomb County in which the public water supply presumably was the source of infection. The outbreak, which was explosive in character, began on July 23 and affected approximately 3,500 persons in a community having a population of 7,643. One or more persons in nearly every household were affected.

Epidemiological investigation by Dr. Stryker, county health officer, indicated that the only vehicle that could be considered common to all was the water supply which came from wells. A severe rainstorm occurred on July 21. At the time of the outbreak, the water supply was unchlorinated. Water samples collected on July 25 revealed no growth when examined bacteriologically.

**Comparative Data For Cases of Specified Reportable Diseases: United States**

[Numbers after diseases are International List numbers, 1948 revision]

| Disease  | Total for week ended— |                 | 5-year median<br>1946-50 | Seasonal low week | Cumulative total since seasonal low week |                  | 5-year median<br>1945-46 through<br>1949-50 | Cumulative total for calendar year— |         | 5-year median<br>1946-50 |
|--|-----------------------|-----------------|--------------------------|-------------------|--|------------------|---|-------------------------------------|---------|--------------------------|
|  | Aug. 4,<br>1951       | Aug. 5,<br>1950 |                          |                   | 1950-51                                  | 1949-50          |   | 1951                                | 1950    |                          |
| Anthrax (062)  | 2                     | 2               | 1                        | ( <sup>1</sup> )  | ( <sup>1</sup> )                         | ( <sup>1</sup> ) | ( <sup>1</sup> )                            | 44                                  | 29      | 32                       |
| Diphtheria (055)                                     | 56                    | 63              | 126                      | 27th              | 175                                      | 239              | 431   | 2,183                               | 3,367   | 5,043                    |
| Encephalitis, acute infectious (082)                 | 42                    | 20              | 19                       | ( <sup>1</sup> )  | ( <sup>1</sup> )                         | ( <sup>1</sup> ) | ( <sup>1</sup> )                            | 582                                 | 472     | 333                      |
| Influenza (480-483)                                  | 250                   | 439             | 300                      | 30th              | 250                                      | 439              | 300   | 116,305                             | 139,203 | 128,857                  |
| Measles (085)  | 2,708                 | 1,906           | 1,906                    | 35th              | 490,846                                  | 303,490          | 580,926                                     | 462,145                             | 284,360 | 545,980                  |
| Meningitis, meningococcal (057.0)                    | 79                    | 43              | 57                       | 37th              | 3,739                                    | 3,456            | 3,355                                       | 2,778                               | 2,543   | 2,383                    |
| Pneumonia (490-493)                                  | 615                   | 873             | ( <sup>2</sup> )         | ( <sup>1</sup> )  | ( <sup>1</sup> )                         | ( <sup>1</sup> ) | ( <sup>1</sup> )                            | 45,154                              | 59,342  | ( <sup>2</sup> )         |
| Poliomyelitis, acute (080)                           | 1,203                 | 1,185           | 1,237                    | 11th              | 5,631                                    | 6,167            | 6,167                                       | 3,6,843                             | 7,298   | 7,030                    |
| Rocky Mountain spotted fever (104)                   | 21                    | 22              | 38                       | ( <sup>1</sup> )  | ( <sup>1</sup> )                         | ( <sup>1</sup> ) | ( <sup>1</sup> )                            | 219                                 | 299     | 353                      |
| Scarlet fever (050) <sup>4</sup>                     | 387                   | 237             | 312                      | 32d               | 68,812                                   | 56,352           | 79,965                                      | 53,121                              | 39,913  | 57,421                   |
| Smallpox (084)                                       |                       |                 |                          | 1                 | 35th                                     | 17               | 44  | 69                                  | 9       | 48                       |
| Tularemia (059)                                      | 10                    | 16              | 24                       | ( <sup>1</sup> )  | ( <sup>1</sup> )                         | ( <sup>1</sup> ) | ( <sup>1</sup> )                            | 416                                 | 612     | 619                      |
| Typhoid and paratyphoid fever (040,041) <sup>5</sup> | 79                    | 109             | 124                      | 11th              | 1,055                                    | 1,399            | 1,485                                       | 1,490                               | 1,909   | 1,958                    |
| Whooping cough (056)                                 | 1,338                 | 2,602           | 2,519                    | 39th              | 67,140                                   | 103,338          | 86,815                                      | 45,538                              | 81,802  | 60,231                   |

<sup>1</sup> Not computed. <sup>2</sup> Data not available. <sup>3</sup> Deductions: Arkansas, weeks ended July 21 and July 28, 1 case each; Kentucky, week ended March 31, 1 case. <sup>4</sup> Including cases reported as streptococcal sore throat.

<sup>5</sup> Including cases reported as salmonellosis. <sup>6</sup> Addition: Rhode Island, week ended July 28, 12 cases.

**Reported Cases of Selected Communicable Diseases: United States, Week  
Ended August 4, 1951**

[Numbers under diseases are International List numbers, 1948 revision]

| Area                      | Diphtheria<br>(055) | Encephalitis, infectious<br>(082) | Influenza<br>(480-483) | Measles<br>(085) | Meningitis, meningoceleal<br>(057.0) | Pneumonia<br>(490-493) | Poliomyelitis<br>(080) |
|---------------------------|---------------------|-----------------------------------|------------------------|------------------|--------------------------------------|------------------------|------------------------|
| <b>United States</b>      | <b>56</b>           | <b>42</b>                         | <b>250</b>             | <b>2,708</b>     | <b>79</b>                            | <b>615</b>             | <b>1,203</b>           |
| <b>New England</b>        | <b>1</b>            |                                   |                        | <b>277</b>       | <b>2</b>                             | <b>13</b>              | <b>43</b>              |
| Maine                     |                     |                                   |                        | 2                | 42                                   | 4                      | 1                      |
| New Hampshire             |                     |                                   |                        | 5                | 1                                    | 1                      | 9                      |
| Vermont                   |                     |                                   |                        | 29               | 1                                    |                        | 2                      |
| Massachusetts             | 1                   |                                   |                        | 136              |                                      |                        | 19                     |
| Rhode Island              |                     |                                   |                        | 26               |                                      |                        |                        |
| Connecticut               |                     |                                   |                        | 39               | 1                                    | 8                      | 12                     |
| <b>Middle Atlantic</b>    | <b>3</b>            | <b>19</b>                         |                        | <b>616</b>       | <b>9</b>                             | <b>45</b>              | <b>117</b>             |
| New York                  | 1                   | 17                                | (1)                    | 330              | 4                                    |                        | 65                     |
| New Jersey                |                     | 1                                 |                        | 155              |                                      | 18                     | 17                     |
| Pennsylvania              | 2                   | 1                                 |                        | 131              | 5                                    | 27                     | 35                     |
| <b>East North Central</b> | <b>1</b>            | <b>4</b>                          | <b>8</b>               | <b>635</b>       | <b>14</b>                            | <b>50</b>              | <b>235</b>             |
| Ohio                      |                     |                                   |                        | 109              | 6                                    |                        | 37                     |
| Indiana                   |                     |                                   |                        | 6                | 5                                    | 2                      | 10                     |
| Illinois                  |                     |                                   | 1                      | 181              | 4                                    | 33                     | 81                     |
| Michigan                  | 1                   | 3                                 | 2                      | 56               | 2                                    | 15                     | 73                     |
| Wisconsin                 |                     |                                   |                        | 284              | 1                                    |                        | 34                     |
| <b>West North Central</b> | <b>4</b>            | <b>3</b>                          |                        | <b>139</b>       | <b>9</b>                             | <b>85</b>              | <b>123</b>             |
| Minnesota                 | 3                   | 1                                 |                        | 11               | 3                                    | 4                      | 28                     |
| Iowa                      |                     |                                   |                        | 20               | 2                                    |                        | 14                     |
| Missouri                  |                     |                                   |                        | 55               | 1                                    | 2                      | 12                     |
| North Dakota              |                     |                                   | 1                      | 24               |                                      | 77                     | 5                      |
| South Dakota              |                     |                                   |                        | 4                |                                      |                        | 5                      |
| Nebraska                  |                     |                                   |                        | 14               |                                      |                        | 23                     |
| Kansas                    | 1                   | 1                                 |                        | 11               | 3                                    | 2                      | 36                     |
| <b>South Atlantic</b>     | <b>16</b>           | <b>5</b>                          | <b>102</b>             | <b>297</b>       | <b>14</b>                            | <b>141</b>             | <b>115</b>             |
| Delaware                  |                     |                                   |                        | 2                |                                      |                        | 1                      |
| Maryland                  |                     | 3                                 | 1                      | 147              |                                      | 22                     | 1                      |
| District of Columbia      |                     |                                   |                        | 7                |                                      | 13                     | 4                      |
| Virginia                  | 1                   |                                   |                        | 60               | 4                                    | 18                     | 11                     |
| West Virginia             | 1                   |                                   |                        | 7                | 3                                    |                        | 9                      |
| North Carolina            | 3                   |                                   |                        | 14               | 2                                    |                        | 21                     |
| South Carolina            | 7                   |                                   | 5                      | 1                |                                      | 2                      | 3                      |
| Georgia                   | 1                   | 2                                 | 43                     | 20               | 3                                    | 86                     | 49                     |
| Florida                   | 3                   |                                   |                        | 39               | 2                                    |                        | 16                     |
| <b>East South Central</b> | <b>9</b>            | <b>2</b>                          | <b>1</b>               | <b>64</b>        | <b>6</b>                             | <b>45</b>              | <b>126</b>             |
| Kentucky                  | 5                   |                                   |                        | 21               | 2                                    |                        | 15                     |
| Tennessee                 | 1                   | 1                                 |                        | 28               | 4                                    |                        | 30                     |
| Alabama                   | 2                   | 1                                 |                        | 12               |                                      | 24                     | 43                     |
| Mississippi               | 1                   |                                   |                        | 1                | 3                                    |                        | 21                     |
| <b>West South Central</b> | <b>15</b>           | <b>4</b>                          | <b>42</b>              | <b>156</b>       | <b>15</b>                            | <b>176</b>             | <b>201</b>             |
| Arkansas                  |                     |                                   |                        | 23               | 2                                    | 32                     | 23                     |
| Louisiana                 | 5                   |                                   |                        | 3                | 5                                    | 20                     | 34                     |
| Oklahoma                  |                     |                                   |                        | 21               | 8                                    |                        | 52                     |
| Texas                     | 10                  | 4                                 |                        | 120              | 10                                   | 119                    | 92                     |
| <b>Mountain</b>           | <b>3</b>            | <b>1</b>                          | <b>87</b>              | <b>131</b>       |                                      | <b>20</b>              | <b>111</b>             |
| Montana                   |                     |                                   |                        | 17               | 41                                   |                        | 2                      |
| Idaho                     |                     |                                   |                        | 4                |                                      |                        |                        |
| Wyoming                   | 1                   |                                   |                        | 12               |                                      |                        | 9                      |
| Colorado                  | 1                   |                                   | 3                      | 16               |                                      | 12                     | 71                     |
| New Mexico                |                     |                                   |                        | 6                |                                      | 3                      | 2                      |
| Arizona                   | 1                   |                                   |                        | 67               | 28                                   |                        | 5                      |
| Utah                      |                     |                                   | 1                      | 23               |                                      |                        | 3                      |
| Nevada                    |                     |                                   |                        | 1                |                                      |                        | 1                      |
| <b>Pacific</b>            | <b>4</b>            | <b>4</b>                          | <b>8</b>               | <b>393</b>       | <b>10</b>                            | <b>40</b>              | <b>132</b>             |
| Washington                |                     |                                   |                        | 3                | 19                                   | 2                      | 8                      |
| Oregon                    | 1                   |                                   |                        | 50               |                                      | 8                      | 14                     |
| California                | 3                   | 4                                 | 5                      | 324              | 8                                    | 32                     | 110                    |
| Alaska                    |                     |                                   |                        |                  |                                      | 1                      |                        |
| Hawaii                    |                     |                                   |                        | 39               |                                      |                        | 1                      |

<sup>1</sup> New York City only.

Anthrax: California and Kentucky, 1 case each.

**Reported Cases of Selected Communicable Diseases: United States, Week  
Ended August 4, 1951—Continued**

[Numbers under diseases are International List numbers, 1948 revision]

| Area                      | Rocky Mountain spotted fever<br>(104) | Scarlet fever <sup>1</sup><br>(050) | Small-pox<br>(084) | Tularemia<br>(059) | Typhoid and para-typhoid fever <sup>2</sup><br>(040, 041) | Whooping cough<br>(056) | Rabies in animals |
|---------------------------|---------------------------------------|-------------------------------------|--------------------|--------------------|---|-------------------------|-------------------|
| <b>United States</b>      | <b>21</b>                             | <b>387</b>                          |                    | <b>10</b>          | <b>79</b>   | <b>1,338</b>            | <b>82</b>         |
| <b>New England</b>        |                                       | <b>25</b>                           |                    |                    | <b>3</b>  | <b>79</b>               |                   |
| Maine                     |                                       |                                     |                    |                    |   | 12                      |                   |
| New Hampshire             |                                       | 4                                   |                    |                    |   | 6                       |                   |
| Vermont                   |                                       |                                     |                    |                    |   | 11                      |                   |
| Massachusetts             |                                       | 16                                  |                    |                    | 2   | 43                      |                   |
| Rhode Island              |                                       | 1                                   |                    |                    |   | 1                       |                   |
| Connecticut               |                                       | 4                                   |                    |                    | 1   | 6                       |                   |
| <b>Middle Atlantic</b>    | <b>1</b>                              | <b>100</b>                          |                    |                    | <b>6</b>  | <b>171</b>              | <b>16</b>         |
| New York                  |                                       | 79                                  |                    |                    |   | 67                      | 12                |
| New Jersey                |                                       | 6                                   |                    |                    | 1   | 53                      |                   |
| Pennsylvania              | 1                                     | 15                                  |                    |                    | 5   | 51                      | 4                 |
| <b>East North Central</b> | <b>1</b>                              | <b>74</b>                           |                    |                    | <b>5</b>  | <b>196</b>              | <b>11</b>         |
| Ohio                      |                                       | 24                                  |                    |                    | 3   | 39                      |                   |
| Indiana                   |                                       | 2                                   |                    |                    | 1   | 32                      | 9                 |
| Illinois                  | 1                                     | 12                                  |                    |                    | 1   | 27                      |                   |
| Michigan                  |                                       | 27                                  |                    |                    |   | 43                      | 1                 |
| Wisconsin                 |                                       | 9                                   |                    |                    |   | 55                      | 1                 |
| <b>West North Central</b> |                                       | <b>29</b>                           |                    |                    | <b>6</b>  | <b>81</b>               | <b>9</b>          |
| Minnesota                 |                                       | 2                                   |                    |                    |   | 2                       |                   |
| Iowa                      |                                       | 2                                   |                    |                    |   | 17                      | 3                 |
| Missouri                  |                                       | 2                                   |                    |                    | 3   | 21                      | 5                 |
| North Dakota              |                                       |                                     |                    |                    |   | 3                       |                   |
| South Dakota              |                                       | 19                                  |                    |                    |   |                         |                   |
| Nebraska                  |                                       | 1                                   |                    |                    |   | 3                       | 1                 |
| Kansas                    |                                       | 3                                   |                    |                    | 3   | 35                      |                   |
| <b>South Atlantic</b>     | <b>15</b>                             | <b>33</b>                           |                    | <b>4</b>           | <b>12</b>   | <b>237</b>              | <b>17</b>         |
| Delaware                  |                                       |                                     |                    |                    |   |                         |                   |
| Maryland                  | 2                                     | 6                                   |                    |                    |   | 12                      |                   |
| District of Columbia      |                                       |                                     |                    |                    |   | 17                      |                   |
| Virginia                  | 6                                     | 2                                   |                    | 4                  | 1   | 31                      | 3                 |
| West Virginia             | 1                                     | 7                                   |                    |                    | 3   | 40                      |                   |
| North Carolina            | 5                                     | 11                                  |                    |                    | 3   | 57                      |                   |
| South Carolina            |                                       | 4                                   |                    |                    |   | 5                       | 11                |
| Georgia                   | 1                                     |                                     |                    |                    | 5   | 38                      | 3                 |
| Florida                   |                                       | 3                                   |                    |                    |   | 37                      |                   |
| <b>East South Central</b> | <b>2</b>                              | <b>27</b>                           |                    | <b>2</b>           | <b>16</b>   | <b>93</b>               | <b>9</b>          |
| Kentucky                  | 1                                     | 6                                   |                    |                    | 3   | 33                      |                   |
| Tennessee                 | 1                                     | 12                                  |                    | 2                  | 3   | 35                      | 2                 |
| Alabama                   |                                       | 4                                   |                    |                    | 8   | 12                      | 5                 |
| Mississippi               |                                       | 5                                   |                    |                    | 2   | 13                      | 2                 |
| <b>West South Central</b> | <b>1</b>                              | <b>14</b>                           |                    | <b>3</b>           | <b>17</b>   | <b>316</b>              | <b>20</b>         |
| Arkansas                  | 1                                     | 1                                   |                    | 2                  | 5   | 14                      | 4                 |
| Louisiana                 |                                       | 2                                   |                    |                    | 4   |                         |                   |
| Oklahoma                  |                                       | 2                                   |                    |                    | 1   | 46                      | 1                 |
| Texas                     |                                       | 9                                   |                    | 1                  | 7   | 256                     | 15                |
| <b>Mountain</b>           | <b>1</b>                              | <b>9</b>                            |                    | <b>1</b>           | <b>4</b>  | <b>101</b>              |                   |
| Montana                   |                                       |                                     |                    |                    |   | 11                      |                   |
| Idaho                     |                                       | 3                                   |                    |                    | 2   | 3                       |                   |
| Wyoming                   |                                       |                                     |                    | 1                  |   | 1                       |                   |
| Colorado                  |                                       | 2                                   |                    |                    | 2   | 17                      |                   |
| New Mexico                |                                       | 2                                   |                    |                    |   | 20                      |                   |
| Arizona                   |                                       |                                     |                    |                    |   | 42                      |                   |
| Utah                      | 1                                     | 2                                   |                    |                    |   | 7                       |                   |
| Nevada                    |                                       |                                     |                    |                    |   |                         |                   |
| <b>Pacific</b>            |                                       | <b>76</b>                           |                    |                    | <b>10</b>   | <b>64</b>               |                   |
| Washington                |                                       | 5                                   |                    |                    |   | 7                       |                   |
| Oregon                    |                                       | 2                                   |                    |                    |   | 4                       |                   |
| California                |                                       | 69                                  |                    |                    | 10  | 53                      |                   |
| Alaska                    |                                       |                                     |                    |                    |   | 5                       |                   |
| Hawaii                    |                                       |                                     |                    |                    | 1   |                         |                   |

<sup>1</sup> Including cases reported as streptococcal sore throat. <sup>2</sup> Including cases reported as salmonellosis.

Rabies in Man: Georgia, 1 case.

# FOREIGN REPORTS

## CANADA

*Reported Cases of Certain Diseases, Week Ended July 21, 1951*

| Disease                        | Total | Newfoundland | Prince Edward Island | Nova Scotia | New Brunswick | Quebec | Ontario | Manitoba | Saskatchewan | Alberta | British Columbia |
|--------------------------------|-------|--------------|----------------------|-------------|---------------|--------|---------|----------|--------------|---------|------------------|
| Brucellosis                    | 4     |              |                      |             |               | 3      |         |          | 1            |         |                  |
| Chickenpox                     | 514   | 4            |                      | 22          |               | 76     | 244     | 29       | 26           | 79      | 34               |
| Diphtheria                     | 4     | 2            |                      |             |               | 1      |         |          | 1            |         |                  |
| Dysentery:                     |       |              |                      |             |               |        |         |          |              |         |                  |
| Amebic                         | 1     |              |                      |             |               |        | 1       |          |              |         |                  |
| Bacillary                      | 12    |              |                      |             |               | 4      |         | 1        |              |         | 7                |
| Encephalitis, infectious       | 1     |              |                      |             |               |        |         |          |              |         |                  |
| German measles                 | 78    |              |                      | 2           |               | 4      | 33      |          | 3            | 12      | 24               |
| Influenza                      | 4     |              |                      |             | 4             |        |         |          |              |         |                  |
| Measles                        | 529   | 25           |                      | 58          | 3             | 118    | 57      | 28       | 16           | 133     | 91               |
| Meningitis, meningoococcal     | 2     |              |                      |             |               |        |         |          | 2            |         |                  |
| Mumps                          | 213   | 10           |                      |             | 1             |        | 31      | 74       | 11           | 7       | 12               |
| Poliomyelitis                  | 37    |              |                      |             | 4             |        | 2       | 24       | 1            | 2       | 1                |
| Scarlet fever                  | 83    |              |                      |             |               |        | 20      | 17       | 23           | 6       | 8                |
| Tuberculosis (all forms)       | 203   |              |                      |             | 1             | 9      | 52      | 21       | 17           | 9       | 14               |
| Typhoid and para-typhoid fever | 7     | 1            |                      |             |               |        | 5       |          |              |         | 1                |
| Venereal diseases:             |       |              |                      |             |               |        |         |          |              |         |                  |
| Gonorrhea                      | 276   | 5            |                      |             | 4             | 14     | 53      | 53       | 18           | 23      | 55               |
| Syphilis                       | 99    | 2            |                      |             | 5             | 9      | 40      | 18       | 4            | 8       | 3                |
| Primary                        | 15    |              |                      |             |               | 3      | 5       | 6        | 1            |         |                  |
| Secondary                      | 5     |              |                      |             |               |        | 2       | 1        |              | 1       |                  |
| Other                          | 79    | 2            |                      |             | 5             | 6      | 33      | 11       | 3            | 7       | 2                |
| Whooping cough                 | 108   |              |                      |             | 7             |        | 35      | 30       | 5            | 14      | 11               |

*Week Ended July 7, 1951\**

| Disease                        | Total | Newfoundland | Prince Edward Island | Nova Scotia | New Brunswick | Quebec | Ontario | Manitoba | Saskatchewan | Alberta | British Columbia |
|--------------------------------|-------|--------------|----------------------|-------------|---------------|--------|---------|----------|--------------|---------|------------------|
| Brucellosis                    | 3     |              |                      |             |               | 2      | 1       |          |              |         |                  |
| Chickenpox                     | 622   | 2            |                      | 21          |               | 44     | 323     | 18       | 45           | 66      | 103              |
| Diphtheria                     | 2     |              |                      |             |               |        | 1       |          |              |         | 1                |
| Dysentery, bacillary           | 2     |              |                      |             |               |        |         |          |              |         | 2                |
| Encephalitis, infectious       | 2     |              |                      |             |               |        | 2       |          |              |         |                  |
| German measles                 | 95    |              |                      | 11          |               | 14     |         |          | 4            | 16      | 50               |
| Influenza                      | 27    |              |                      | 25          | 1             |        |         | 1        |              |         |                  |
| Measles                        | 858   | 4            |                      | 61          | 8             | 208    | 145     | 27       | 19           | 226     | 160              |
| Meningitis, meningoococcal     | 3     | 1            |                      |             |               |        | 1       | 1        |              |         |                  |
| Mumps                          | 307   | 9            |                      | 4           |               | 32     | 130     | 5        | 30           | 21      | 76               |
| Poliomyelitis                  | 30    |              |                      | 8           |               | 2      | 19      |          |              |         | 1                |
| Scarlet fever                  | 181   | 1            |                      |             |               | 34     | 36      | 24       | 14           | 39      | 33               |
| Tuberculosis (all forms)       | 253   | 13           |                      |             | 2             | 13     | 132     | 26       | 20           | 9       | 18               |
| Typhoid and para-typhoid fever | 9     |              |                      |             |               |        | 5       |          |              | 1       | 3                |
| Venereal diseases:             |       |              |                      |             |               |        |         |          |              |         |                  |
| Gonorrhea                      | 250   | 11           |                      |             | 2             | 11     | 58      | 40       | 27           | 12      | 41               |
| Syphilis                       | 93    | 3            |                      |             | 3             | 3      | 56      | 18       | 1            | 2       | 1                |
| Primary                        | 10    |              |                      |             |               | 2      | 7       |          |              | 1       |                  |
| Secondary                      | 1     |              |                      |             |               |        | 1       |          |              |         |                  |
| Other                          | 82    | 3            |                      |             | 3             | 1      | 48      | 18       | 1            | 1       | 6                |
| Whooping cough                 | 119   | 1            |                      |             |               | 1      | 44      | 33       | 6            | 3       | 10               |

\*Delayed report.

## FINLAND

### *Reported Cases of Certain Diseases—June 1951*

| Disease                   | Cases | Disease            | Cases |
|---------------------------|-------|--------------------|-------|
| Diphtheria                | 58    | Typhoid fever      | 2     |
| Dysentery                 | 1     | Venereal diseases: |       |
| Meningitis, meningococcal | 9     | Gonorrhea          | 426   |
| Paratyphoid fever         | 37    | Syphilis           | 20    |
| Poliomyelitis             | 3     | Other forms        | 3     |
| Scarlet fever             | 1,732 |                    |       |

## NEW ZEALAND

### *Reported Cases of Certain Diseases and Deaths for 2 Periods*

*4 Weeks Ended May 26, 1951*

| Disease                  | Cases | Deaths | Disease                   | Cases | Deaths |
|--------------------------|-------|--------|---------------------------|-------|--------|
| Brucellosis              | 5     | —      | Influenza                 | 1     | —      |
| Diphtheria               | 6     | —      | Meningitis, meningococcal | 6     | 1      |
| Dysentery:               |       |        | Poliomyelitis             | 4     | —      |
| Amebic                   | 12    | —      | Puerperal fever           | 2     | —      |
| Bacillary                | 5     | —      | Scarlet fever             | 80    | —      |
| Encephalitis, infectious | 2     | —      | Trachoma                  | 2     | —      |
| Erysipelas               | 10    | —      | Tuberculosis (all forms)  | 167   | 33     |
| Food poisoning           | 2     | —      | Typhoid fever             | 6     | —      |

*5 Weeks Ended June 30, 1951*

| Disease                  | Cases | Deaths | Disease                   | Cases | Deaths |
|--------------------------|-------|--------|---------------------------|-------|--------|
| Brucellosis              | 2     | —      | Malaria                   | 1     | —      |
| Diphtheria               | 10    | —      | Meningitis, meningococcal | 13    | 2      |
| Dysentery:               |       |        | Poliomyelitis             | 2     | —      |
| Amebic                   | 8     | —      | Scarlet fever             | 111   | —      |
| Bacillary                | 15    | —      | Tetanus                   | 5     | 4      |
| Encephalitis, infectious | 2     | —      | Tuberculosis (all forms)  | 199   | 72     |
| Erysipelas               | 19    | 1      | Typhoid fever             | 6     | —      |
| Food poisoning           | 11    | —      |                           |       |        |

## REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

The following reports include only items of unusual incidence or of special interest and the occurrence of these diseases, except yellow fever, in localities which had not recently reported cases. All reports of yellow fever are published currently. A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

### **Cholera**

*India (French).* During the period July 11–20, 1951, nine cases of cholera were reported in the seaport of Pondicherry.

*Pakistan.* For the week ended July 28, 1951, 14 imported cases of cholera were reported in Chittagong.

### **Smallpox**

*India (French).* During the period July 11–20, 1951, smallpox was reported in French India as follows: Karikal, 23 cases; Mahe, 2; and Pondicherry, 1.

*Indochina.* Smallpox was reported for the week ended July 28, 1951, in three ports of Viet Nam as follows: Nam Dinh, nine cases; Haiphong, eight; and Hanoi, three.

*Indonesia.* For the week ended July 14, 1951, three cases of smallpox were reported in Bandjarmasin, Borneo, and for the week ended July 21, five cases were reported in Surabaya, Java.

*Sierra Leone.* One case of smallpox was reported in Sierra Leone for the week ended June 23, 1951. This is the first case since the week ended April 14.

#### **Yellow Fever**

*Cameroon (French).* A suspected fatal case of yellow fever was reported in Mora in the Region of Margui-Wandala. This is the first case for this area.

*Costa Rica.* Three cases of jungle yellow fever have been reported in three separate areas in the Province of Limon which is near the border of Panama. One case was reported on June 2, in Sixaola; one fatal case on July 23, in Trebol, La Estrella; and one fatal case on July 27, in Cayuga, Pococi. This indicates further extension of jungle yellow fever along the Caribbean coastal area from the Republic of Panama.

*Gold Coast.* During the period July 2-26, nine suspected cases of yellow fever were reported as follows: July 2, one case in Kpandu; July 11, one in Lartch; July 11-12, two in Brenase; July 12, one in the seaport of Winneba; July 15, one in Kpandu; July 18, one in Lartch; July 19, one in Kibi; and July 26, one in Akwatia.

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It contains (1) current information regarding the incidence and geographic distribution of communicable diseases in the United States, insofar as data are obtainable, and of cholera, plague, smallpox, typhus fever, yellow fever, and other important communicable diseases throughout the world; (2) articles relating to the cause, prevention, and control of disease; (3) other pertinent information regarding sanitation and the conservation of the public health.

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